

A Study of the Correlations of Certain
Mental Trends in Delinquent Boys.

by

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A STUDY OF THE CORRELATIONS OF
CERTAIN MENTAL TRENDS
IN DELINQUENT BOYS.

CHAPTER I. THE GENERAL PROBLEM.

The potentially delinquent child, erring but only incidentally so, whose social attitude is still largely in the making, is the object of this investigation. The degree of intelligence of this child, his environment, his home background, his possibilities for normal advantageous development, and various other features and the relationship of each factor to each of the others, were chosen for study.

In the schools the teacher's ingenuity is greatly taxed by these non-conforming children. The matter of adjusting the work to them consumes much more time and energy than is their due, considering that the teacher is supposed to expend herself equally for all pupils. Even with the exercise of all her powers she is unable to prevent an appreciable slowing up of classroom instruction because of inert pupils or those actively antagonistic to school processes. Needless to say the slow and the bad ones are not being effectively educated. Not only do they learn little of the curriculum, but the compulsory attendance for tedious years, upon meaningless, uninteresting or despised topics may be conducive to delinquent behavior.

The fact that large school systems are establishing special classes, special schools, opportunity rooms, opportunity schools, trade schools and parental schools, is evidence that the child who does not do well in school makes a serious problem for the educator.

CHAPTER II. EARLIER STUDIES REVIEWED.

1. Healy's Juvenile Delinquent.

William Healy's (1) "The Juvenile Delinquent" is the outstanding work of the earlier period in the study of the delinquent child. As director of the Psychopathic Institute of the Juvenile Court of Chicago, Healy collected detailed information concerning 1000 juvenile delinquents. The ancestry, home, physical condition, neighborhood, associates, mentality as to intelligence and poise, were studied and results tabulated for each case. Typical cases have history appended with disposition of case and results. There is no tabulation or classification of material, and no numerical summary so general trends cannot be set forth as drawn from statistics.

Healy is referred to later in the classifications of findings which follow.

2. The Intelligence Quotient of Juvenile Offenders.

George Ordahl's (2) study of boys at St. Charles School for Boys showed:

19.6%	below 70 I. Q.
20.8	70-75
15.5	75-80
44.1	above 80

He finds crimes against property the most common type

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- (1) Healy, William, The Juvenile Delinquent, Little, Brown Co. Boston, 1914
 (2) Ordahl, George, A Study of 341 Delinquent Boys, Journal of Delinquency, May 1916, Vol. 1. No. 2.

of delinquency. The location of homes is found unfavorable in social influence.

J. Harold Williams (3) made a study of boys at Whittier in 1915. He found 28% feeble minded and 25% at or near the border line.

J. L. Van Horn (4) made a study of 53 juvenile court wards of Santa Clara County, California, City of San Jose, in 1918. Intelligence tests gave general accord with Ordahl, previously quoted.

Eleanore Hope Johnson, in 52 cases, reported as behavior problems from Public School 11, Manhattan, N. Y., found in 66% of overageness, 83% repeated grades. Parental conditions and parental supervision both inferior. Health does not correlate with behavior. Truancy is more hopeful than misconduct in school. Emotional unbalance produces feeble inhibition.

Winifred Richmond (6) in a survey of the Industrial Institute of Wyoming by means of Terman-Binet with diagnosis, and physical examinations, discovers 2/3 are below average intelligence. Of the other 1/3, 38 have abnormalities of functioning. Fifteen percent are feeble

(3) Williams, J. Harold, A Study of 150 Delinquent Boys Bulletin No. 1, Research Laboratory of the Buckel Foundation, 1915.

(4) Horn, J. L. A Study of 53 Juvenile Court Wards. Journal Delinquency. Sept. 1918, Vol. 3, No. 5.

(5) Johnson, Eleanore Hope, Mental Status and Conduct. Journal Delinquency. Nov. 1921. Vol. VI, P. 549.

(6) Richmond, Winifred, An Industrial Institute Survey, Journal Delinquency, Sept. 1921, Vol. VI.

minded. There are neurotics and psychopaths at all levels--more frequent among the brighter boys. 10.4% gave promise of reform.

C. Burt (7) studied 200 cases of delinquent boys and girls, 123 of the former, 77 of the latter, with regard to family history, personal history, physical characteristics psychological characteristics, and offenses.

Correlations computed from his findings are as follows:

Delinquency and heredity $r = .32$

Delinquency and environment $r = .32$

Delinquency and Physical Condition $r = .16$

Delinquency and Psychological Condition $r = .31$

3. Homes of Juvenile Offenders.

Willis W. Clark (8) investigated the homes of boys of Whittier State School using for scoring the Whittier Scale. (See p. 25, Chapter IV) The object of the study was to discover the correlation between homes and intelligence. The results show a correlation of .25 between home conditions and I. Q. P. E. .036. Three hundred four cases were investigated.

(7) Burt, C. Causal Factors of Juvenile Crime, British Journal of Psychology, 1923, 31-33.

(8) Clark, Willis W., Home Conditions and Native Intelligence, Journal Delinquency, January 1922.

Miss Richardson (9) investigated the homes of 100 defective children living at Vineland. She tabulates her findings as follows:

1 living in luxury.

20 plenty (careless housekeeping and management)

50 had parlors or kitchen living rooms.

3 from asylums.

15 very poor.

3 in rooms (1 slum-maniac, 1 clear maniac,
1 very dirty)

12 in houses with yards and flowers

Healy(10) in Individual Delinquents emphasizes in the "delimitation" of his field, "Data about family and environment may be worth much for explanation of offender's tendencies. A study of his cases reveals many of what C. Burt calls "adverse circumstances" in the home of the delinquent child.

Burt's (11) survey previously quoted, revealed a correlation between delinquency and four main home defects as follows: poverty 14; defective family relationships 34, defective discipline .46; vicious home .42.

Ordahl (12) finds 70% of boys at St. Charles from broken homes.

(9) Richardson, Josephine M., Home conditions of 100 Defective Children, Training School Bulletin, Dec. 1923.

(10) Healy, Wm., The Individual Delinquent, Little, Brown Co., Boston, 1914.

(11) Burt, C. Causal Factors of Juvenile Crime, British Journal of Psychology 1923, 3, 1-33

(12) Ordahl, George, A Study of 341 Delinquent Boys, Journal of Delinquency, May 16, Vol. 1, No.2.

4. Association Studies.

Otis (13) made a study* of 130 children at Vineland with Mental ages 2-12, using a control group of Trenton School children from 4 to 8 chronological age, 200 in number, 40 at each age. He found the following types of individual reactions. These display an interesting difference between reactions of the mentally defective children and children of the normal group, although the mental ages of the two groups are assumed to be comparable:

Vineland	Trenton Normal
1. Repetition of Stimulus Appears among defectives of higher mental levels than among normals.	1. Repetition of Stimulus but not so frequently as Vine- land group.
2. Non-logical.	2. Non-logical occurs more fre- quently at 5 years.
3. Sound reactions.	3. Sound reactions, sporadic.
4. More than one word.	4. More than one word, charac- teristic at 5-6 years.
5. One word normal type.	5. One word normal type, not yet of adult type at eight years.

J. R. and A. J. Rosanoff (14) made a study of 300 school children, ages 4-15, selected at random, except that an even

(13) Otis, M., A Study of Association in Defectives, Journal Of Educational Psychology, Vol. 6, 1915.

(14) Rosanoff, J. R. and A. J., A Study of Association in Children Psychology Review, 1913, 250-253.

* With Kent-Rosanoff Association test.

number 25 at each age; were taken. The Kent-Rosanoff (15) Association Test was used with technique adapted to the younger children. The test records were analyzed and classified as usual with Kent-Rosanoff test. Items of difference with adult tests were as follows:

1,000 adults gave 6.8% individual reactions, 85 specific; 175 children 4-10 years gave 18.8% individual reactions 62.7% specific.

The quality of individual reactions:

	Adults	Children
Normal by appendix	41.8%	20%
Perseveration	6.1	27.8
Derivative of stimulus	.3	.1
Neologisms	0	.6
Unclass	43.8	40.4

Summary: Large number of doubtful and individual reactions, partial dissociations, and perseveration. Failures due to lack of familiarity with stimulus word. Gradual development from 4 year old to adult type. Definite correlation between mental capacity and association. Extreme departure from average at any age depends upon biological variation--plus variations, precocity; minus variations, pathology. "Items of difference", from adult reactions, "are confined to children under 11 years of age".

Eastman and Rosanoff (15) made a study of 104 boys from (15) Kent, H. and Rosanoff, A. J., A Study of Association in Insanity, Am. Journal of Insanity, Vol. 67, No. 1, 2, 1910. (16) Eastman, F. C. and Rosanoff, A. J. Association in Feeble Minded and Delinquent Children, American Journal of Insanity, Vol. 69, pp. 125-151.

House of Refuge, Randall's Island; 42 boys from the Brooklyn Disciplinary Training School, 8 girls from Brooklyn Training School and Home for Girls; 48 boys and 47 girls from public schools in Brooklyn; 2 boys and 2 girls who were private patients. All were backward in school and the majority were delinquent. The Kent-Rosanoff association test was used.

Abnormal Associational tendencies were revealed as follows: (1) failure; (2) Non-specific 8.4% (normal 6.2%) (3) repetition; (4) particles, marked number; (5) Individual Reactions, 13.2% as compared with normal 6.8% and insane 26.8%.

5. Housing

John J. Clark (17) sets forth requirements for group housing as to dry areas, concrete, basements, water supply, drainage, staircases, ventilation, size of rooms, sinks and caps, water closets, place for refuse, place for clothes washing, number of rooms.

Clark also quotes Birkhead Tutorial Class on semi-detached houses as follows: garden in front, back passage, 3 bedrooms and bathroom, regulation for stairs, fire-place in each bedroom, drawers, hooks, linen-closet in each bedroom, parlor, scullery, outside wash house, larder, windows, cold storage, etc.

Mr. Lawrence Veiller (18) recommends special care as to
(17) Clark, John J., The Housing Problem, London, Sir Isaac Pitman and Sons, Ltd, Amen Corner, E. C. 4 Bath, Melbourne, N.Y.
(18) Veiller, Lawrence, Secy. Natl. Housing Association, Houses for Skilled Workers, Williamsport, Pa.

light and ventilation of basement, concrete floor, hot air furnace; bathroom with porcelain tub, washbowl and toilet fixtures; kitchen has porcelain sink and wash-tub; front porch; kitchen entrance; gas, electricity; closets; kitchen cabinet, linen closets.

Knowles (19) in Industrial Housing Emphasizes for 5 and 6 room houses, large kitchens for dining purposes--no built-in features, no single bedrooms, no refrigerator in basement, fruit and vegetable room in basement. The furniture is to determine size of rooms and placing of windows.

Wm. E. Groben, (20) architect of Philadelphia, Penn., in Essentials for Unskilled, Poorly Paid Workman's Homes, insists upon walls and roof permanent, waterproof; windows in every room for sunshine and ventilation, decent modern toilet facilities, sink in kitchen with running water and sewer connection; gas or electric light and proper heating apparatus; combination living room, dining room, and kitchen; bedroom large enough for parents with infant child; bedroom for male children; bedroom for female children.

Leslie M. Allen, (21) Arbelthow Construction Company also emphasizes waterproof walls and roofs, and adds floor. Same bedroom plans as Groben and other essentials very nearly parallel to Groben.

U. S. Dept. of Labor describes how to group houses.

Not to be more than 2 rooms deep, no living quarters in

(19) Knowles, Industrial Housing, p. 295

(20) Groben, Wm. E., Unskilled, Poorly Paid Workmen's Homes, Philadelphia, Penn., Arch. Rec. Jan. 1919.

(21) Leslie M. Allen, Workmen's Homes, Sci. Am., Dec. 1919.

basement, minimum floor space for each kind of room, at least one window in each room opening directly to exterior, toilet and bath for each apartment.

6. Psychopathy of the Juvenile Offender.

Miss Mateer (22) in Chapter IX of Unstable Child sets forth her conception of the delinquent of abnormal functioning of intelligence. She defines psychopathy in terms of function as compared with intelligence levels and age ratings. Miss Mateer finds the behavior of delinquent boys and girls is paralleled in detail by that of the insane in the hospitals for the psychotics. She suggests ten requirements for diagnosis of psychopathy, prominent among these are (1) the amount of scatter above basal age on the Binet scale and (2) the number of individual reactions and their quality on the Kent-Rosanoff test. Miss M. finds a scatter of 4 or more years significant in diagnosing psychopathy and individual reactions numbering 10 or more are of even greater significance, especially when analyzed as to quality.

Dr. Goddard (23) in Juvenile Delinquent discusses his subject from the postulate--"He did not know any better or he could not help it." He formulates problems thus:

1. Inheritance and environment control development of child into useful or non-useful adults.

(22) Mateer, Florence, Unstable Child, New York, D. Appleton and Co., 1924.

(23) Goddard, H. H., The Juvenile Delinquent, 1921
Dodd Mead, N. Y.

2. Inheritance has 2 divisions.

a. Common racial inheritance.

b. Special inheritance from family stock.

"Good intelligence may conquer environment. The inherited factors that are likely to become anti-social, unless civilized, are (1) sex interest, (2) accumulation of property, (3) etc."

Training a child means constant modification and control of inherited impulses.

Chapters II and III are largely a discussion of Miss Mateer's work with juvenile delinquents in Ohio Bureau of Juvenile Research, setting forth, first, the adequacy of the Kent-Rosanoff test in revealing psychopathy. Miss M's social characteristics of psychopathic child are quoted. Causes: Many psychopaths are congenitally syphilitic; diseases of childhood--fevers--infections--intoxications are suspected, disturbance of emotional system acting through glands.

Dr. Goddard discusses treatment of psychopaths:

(1) Feeble-minded institutions may easily adjust to psychopathic feeble-minded. (2) First treatment of average and superior intelligence levels should be to tell the child his condition, (if he is old enough to understand), that he may avoid situations to which he cannot adjust or prepare himself for determined effort if he is unavoidably thrust into such circumstances. Keep in touch by letter and habit may bring desirable results.

CHAPTER III. THE SPECIFIC PROBLEM DELIMITED BY
TWELVE QUESTIONS.

The following questions were formulated to define the various features of the study:

1. What are the chronological ages of the boys in the group studied?
2. What are the intelligence quotients of the boys in the group studied?
3. What are the mental ages of the boys in the group studied?
4. To what extent does each boy scatter on the Binet Test?
5. What is the character of the reactions of each boy, to the Kent-Rosanoff Test?
6. From what kind of a home does each boy come?
7. From what kind of a neighborhood does each boy come?
8. How is each boy rated by qualified adults, on his ability to get along with people and make his own way?
9. What was the cause of commitment of each boy?
10. What is the physical condition of each boy?
11. If paroled, what is his present adaptation to society?
12. What correlation exists between each of the features named in the first ten questions and each of the others of the first ten taken separately?

CHAPTER IV, THE METHOD OF STUDY.

1. Field of Study

The group selected for the study was the population of McCune Home, by definition A Home for Dependent and Delinquent Boys of Jackson County, Missouri.

2. Reason for Varying Number of Cases in Various Features of Study

A total of 169 boys were studied but only 143 appear in the tabulations because boys were being paroled every week or for other reasons left the home before tests were completed. There were 26 who had only the Binet-Simon Test or only the Kent-Rosanoff Test. As these were random cases they were not tabulated. New boys arrived every Friday and the judges, very consistently, did not rate boys with whom their acquaintance was short. Consequently only 129 cases appear in judges ratings.

In most calculations involving the Kent-Rosanoff Test, only cases 11 years and over are used, as will be explained later. (see chapter V, p. 37) There were 122 of these.

The homes of only 101 boys were located and some of these could not be used in every tabulation because of the age limitation for Kent-Rosanoff Test.

One hundred-one cases were studied with regard to eight features each, 42 cases are incomplete in some features. The complete 8 features of the survey for the 101 cases are: age, mental age, intelligence quotient, individual reactions on the Kent-Rosanoff Test, social index,

home rating, judges rating, and cause of commitment.

The Binet Record Booklets were not available for a few cases, and a few cases displayed no Scatter so with regard to this feature only 111 boys are studied.

3. Age of Cases.

The boys included in the study were from 6 to 18-10 years of age.

4. Stanford-Binet.

The Stanford revision of the Binet-Simon Test was used to establish intelligence quotients. The test was administered to 75 of the 143 cases by the head of the psychology department of the Kansas City, Mo. public school system. The remainder of those used in this study were given by the writer. From the Binet²⁵ test were secured the chronological age, mental age, intelligence quotient, and the scatter or range in years above basal age.

5. Kent-Rosanoff

The Kent-Rosanoff Tests were all given by the writer. From the Kent-Rosanoff were derived the number of individual reactions and the social index.

The following history of the Kent-Rosanoff test is given to make clear the character of individual reactions and social index.

The Kent-Rosanoff (24) test was developed by first sub-

(25) Diagnostiker Geistuskiankherten p. 112.

(24) Kent, H. and Rosanoff, A. J. A Study of Association in Insanity, Am. Journal of Insanity, Vol. 67, 1910.

* Record Booklets.

mitting 100 words to each of 1,000 persons of both sexes, of ages ranging from 8 to 100 years, following different occupations, possessing various degrees of mental capacity and education and living in widely separated localities. The 100 words of the test were carefully selected to avoid words liable to call up personal experiences, and care was taken to separate any two words of evident close relation. Sixty-six of these words were taken from the list suggested by Somer (25), the other thirty-four were supplied by the authors of the study.

There is little formality about the administration of the test. The subject is seated so he cannot see the record and asked to respond to each stimulus word, as it is pronounced by the experimenter, with one word, the first word that occurs to him other than the stimulus word itself. If sentence, phrase or grammatical variant is the reaction, it is left unrecorded and the stimulus word repeated at the end of the test.

From the records of the 100,000 reactions thus obtained frequency tables were compiled showing every word given as a reaction to each stimulus word. To each word is appended the number showing how many times out of a possible thousand, this word was given as a reaction word to a stimulus word. These reaction words and their frequencies are tabulated under the heading of their respective stimulus words, making 100 tabulations.

The object of the study referred to was to establish a norm in association for purposes of comparison with the

insane of King's Park State Hospital, N. Y. with which Miss Kent and Dr. Rosanoff were associated.

For the present study the purpose has been to secure the reactions, establish the frequencies by reference to the K. R. frequency tables, summate these frequencies for each individual, divide each sum by the highest possible score and correlate the social indices thus obtained with the other measurements of the study. The very highest frequency summation possible is 25815 which may be said to represent the ideal person. The score of any individual divided by this ideal score gives the social index.

The reactions not found in the frequency tables are called individual reactions. These individual reactions have been tabulated and correlated in the present study because of the significance which they are given by Miss Mateer in her study of psychopathy. They were not analyzed as to quality.

6. Home Survey

A Home Survey of 101 boys of the group studied was made covering the points used by Willis W. Clark (26) in a survey to discover relation between home and intelligence. The points are as follows:

1. The necessities; the status of the home with regard to the ordinary needs of life; income, food and clothing, shelter, furnishings, comforts.

2. Neatness: The order and taste with which the home is arranged, also its condition from the standpoint of sanitation and health.

(26) Clark, Willis W. Home Conditions and Native Intelligence, Journal Del., Jan., 1922

Desirability of location also recorded. See Home Ratings, Chapter V.

3. Size: Relative size with reference to the number of persons living in the home.

4. Parental Conditions: Parents living? Together? With what degree of harmony?

5. Parental Supervision: The extent to which parents or guardians exercise jurisdiction over the physical, mental and moral welfare of the child. The quality and fairness of this control.

"After the data for all items are recorded, each item is accorded a grade on a scale of 5 points according to its agreement in quality, not in specific detail, with the graded samples of actual homes, on the standard score sheet."

The writer made the necessary adaptation of the preceding paragraph. In the home survey it developed that there were only four homes of McCune boys that possessed the minimum requirements set up by authorities quoted under "Findings." These minimums are watertight roof, walls, floor, light and ventilation; basement of sufficient height (6½ feet) with cement walls and floor; heating apparatus, bathroom facilities; running water in kitchen; sufficient bedrooms--one for mother and father--one for male children, one for female children; electric lights, gas.

Not all of these points could be scored, any more than one can definitely score on the Whittier Scale "according to agreement in quality, not in specific detail" but bathroom facilities, bedrooms, and a living room were three

points that decent scrutiny would reveal, basement was often home of my cases and open doors displayed heating apparatus, storage rooms etc. Condition of walls, roof and floor was in evidence. A mental estimate of value of each of these features in comparison with the four "good" homes, was made. If their sum was out of proportion with the four "good" homes a careful revision was made of estimate of points and a new index recorded.

Neatness could be easily seen and five degrees were recognized. 1. Filth and disorder; 2. Considerable neatness but still filth; 3. Much disorder but fairly clean; 4. Medium degree of order and cleanliness; 5. Attractive arrangement and intelligent sanitation. Ordinarily a home was scored easily on one of these five degrees but occasionally there was difficulty in deciding whether disorder was temporary or habitual or whether what seemed disorder was not good management on the part of mothers with small children or sickness in the home. At the home the data on card II* was recorded. The score of each home was made in book of addresses as quickly as possible after leaving home and then transferred to card I.

The score was detailed in each case under five heads with due consideration of standards under "necessities" and "size". "Incomes" were not available usually and the other features of the survey were deemed fairly significant of that feature. For instance, a standard home with parents

*See Appendix for sample cards.

of refinement and culture, of good standing in neighborhood, is evidence of a comfortable income; while a home with bare necessities and inferior parents is obviously one of small income. "Parental Conditions" were usually freely discussed by boys when tests were given. Court records were consulted where the child was young or there was any doubt of his story.

Parental supervision is in most cases obviously a failure and is scored low, but some cases have all the ear marks of intelligent direction of the child's activities. Since in every case of this kind the child is delinquent it may seem contradictory to score the point high. It must be kept in mind that the present study attempts to show that there are several other factors determining child behavior.

The writer has had a three years' acquaintance with a considerable number of parents and guardians to verify scores on "Parental condition" and "Parental Supervision" and court records have been consulted on same points*.

7. Judges' Rating.

The Judges' Ratings were secured as follows: After much discussion with the judges individually regarding value of native intelligence and amiability, and the probability that bad habits would be overcome, using outstanding cases to illustrate, the writer asked the judges,--one a teacher in McCune School with considerable teacher's college training; another a college man who gave the Binet

*Information for less than half of the cases was secured on: Reading habits, church attendance, education of parents, number in family, age at first delinquency, and help to family. See card in appendix.

tests for the Kansas City School Board; the third, Supt. of the Home, a man of superior intelligence,--to rate the boys concerned in this study. The list of boys' names arranged alphabetically was given to each judge with a request that he express in numbers ranging from 1 to 5 his estimate of each boy's ability: (1) To get along with people, (2) To supervise his own affairs when old enough. The first to be considered worth 2 points, the second as somewhat overlapping the first, 3 points.

8. Cause of Commitment

Cause of commitment has been fully described under a separate head. Here it will suffice to say that the source of information was the court histories of the cases from the duplicates sent to McCune from the juvenile court files.

9. Physical Condition.

Physical condition in 48 cases, was determined by examination of throat, teeth, nose, eye, and neck glands by the writer. Sometime later hospital service was established and diagnoses made by staff of Mercy Hospital, of cases involved in present study, were also recorded.

10. Tabulations and Correlations.

To present the data secured as just described nine plates were made each containing a frequency distribution with mean and sigma, and a graphical presentation of the data, nine tables were made with columns of data. Seventeen Correlation tables were made.
See Chapter V. p. 44, also Sample Case History in Appendix.

Plate I

DISTRIBUTION OF CHRONOLOGICAL AGES OF 143 BOYS AT McCUNE

6-19 YEARS OLD

No.
Cases

35

30

25

20

15

10

5

0

6 7 8 9 10 11 12 13 14 15 16 17 18 19

Chronological Age

1 boy 6 years old

3 " 7 " "

4 " 8 " "

9 " 9 " "

4 " 10 " "

25 " 11 " "

35 " 12 " "

27 " 13 " "

9 " 14 " "

10 " 15 " "

9 " 16 " "

4 " 17 " "

2 " 18 " "

1 " 19 " "

87 boys 11-13 inc.

$N = 143$

$M = 12-4$

$S = 2.35$

PLATE II

COMPARISON OF McCUNE AND Terman

143 CASES AT McCUNE

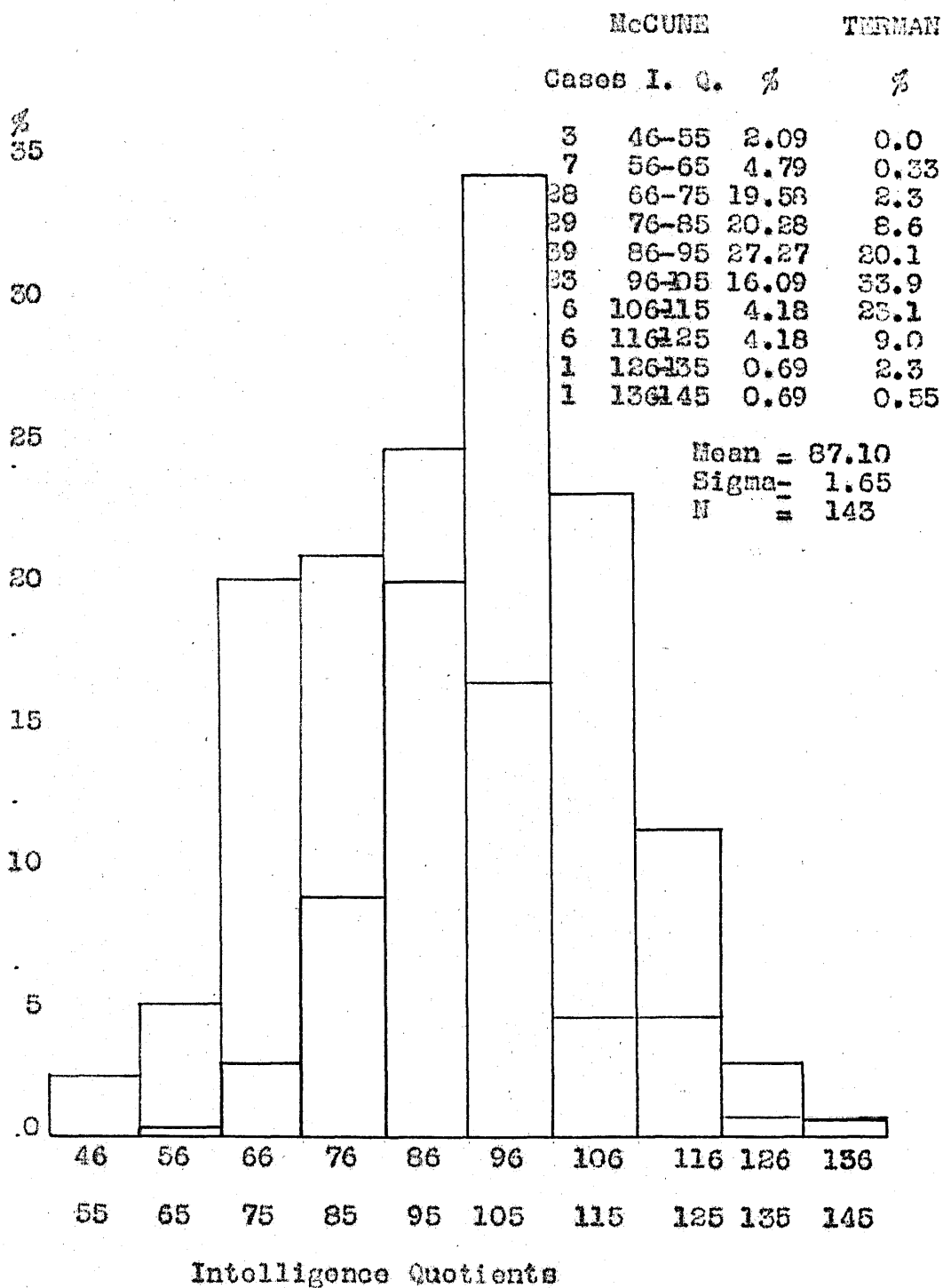


PLATE III

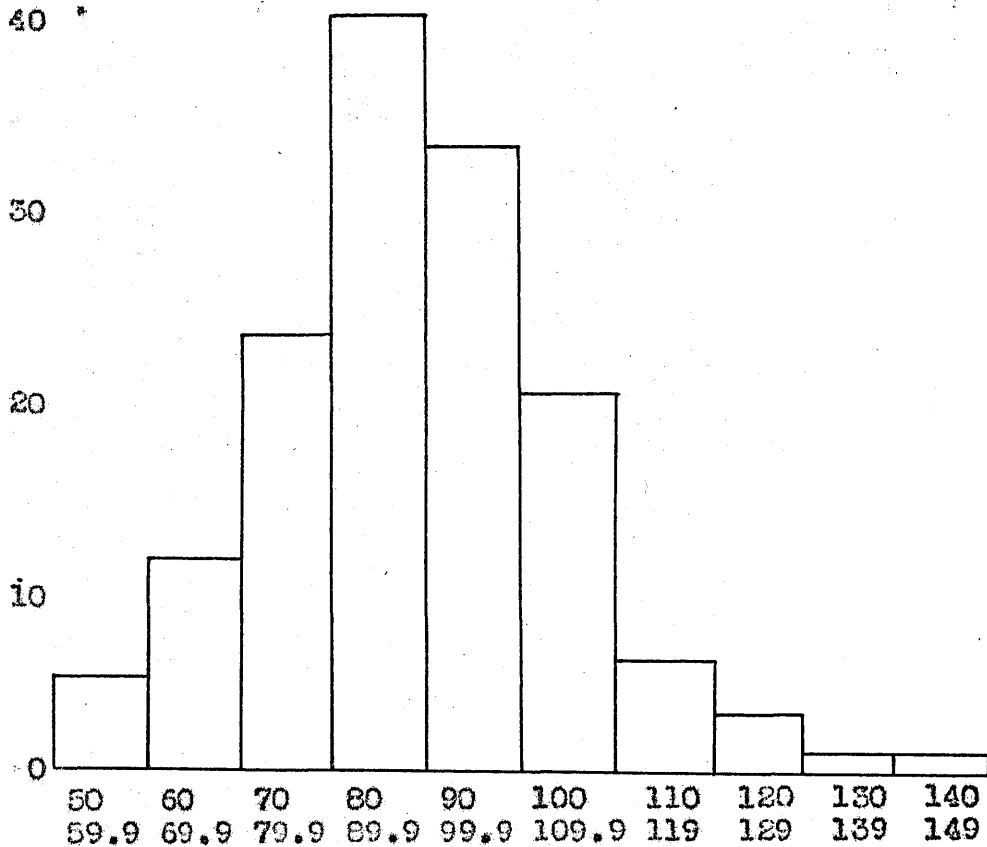
MCCUNE CLASSES OF INTELLIGENCE

DISTRIBUTION OF 143 CASES

FEEBLE MINDED	50- 59.9	5
	60- 69.9	11
BODERLINE	70- 79.9	23
DULL	80- 89.9	40
AVERAGE	90- 99.9	33
	100-109.9	20
SUPERIOR	110-119.9	6
VERY SUPERIOR	120-129.9	3
	130-139.9	1
GENIUS	140-	1

N = 143

NO.
CASES



Intelligence Quotients

F.M. B. L. D. Avg. S. V.S. G

CHAPTER V. FINDINGS AND THEIR INTERPRETATION

1. Chronological Age

Plate I displays a frequency distribution and a histogram of the chronological ages of the whole group (143 boys). The ages range from 6 to 18-10 years. The mean is 12.4 with Sigma 2.35. Fifty-five per cent are between 11 and 13-11 years old. Twenty-one per cent are between 14 and 18-10 years and twenty-four per cent are between 6 and 10-11.

The large group between 11 and 13-11 is significant. It seems that "disadvantageous circumstances" bear fruit largely between those ages.

The groups between 14 and 18-10 includes a number whose instinct for the adult's right of choice is asserting itself and who, quite aside from other factors to be discussed, are a different problem from the former group.

The youngest group approach normal childhood reactions so far as experience conditions such reactions.

2. Intelligence Quotient

Terman's (27) distribution of 905 unselected children, 5-14 years of age is used as a basis of comparison. Plate II presents this comparison numerically. The intelligence quotients of McCune were reduced to per cents and this plate shows them arranged in a column parallel to Terman's using Terman's class intervals.

(27) Terman, Lewis M., The Measurement of Intelligence, p. 65.

McCune per cents exceed Terman as follows:

Class Interval 46-55,	2.09%
Class Interval 56-65,	4.46%
Class Interval 66-75,	17.28%
Class Interval 76-85,	11.68%
Class Interval 86-95,	7.26%
Class Interval 136-145,	.14%

Terman Per cents exceed McCune as follows:

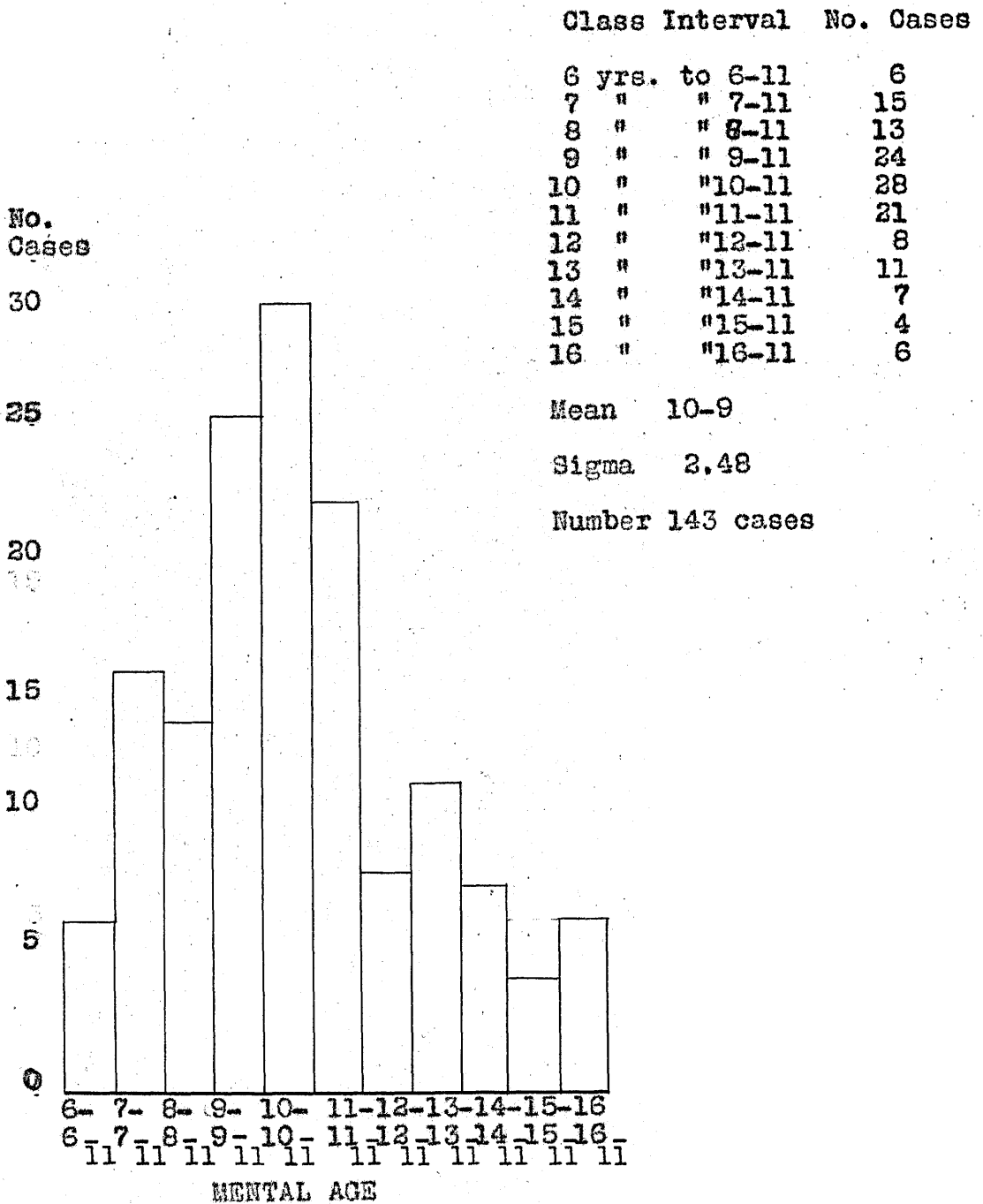
Class Interval 96-105	17.81%
Class Interval 106-115,	18.92%
Class Interval 116-125,	4.82%
Class Interval 126-135,	1.61%

The large frequencies in the lower intervals, and the correspondingly small frequencies in the upper intervals give a general view of the intelligence of the McCune group. The lowest 25% are 75 or below--handicapped mentally to a serious extent. The middle 50%, approximately, lie between 76 and 95. The highest 25% range from 96 to 142--the highest intelligence being 142.

Plate III presents another distribution of intelligence quotients--on the Terman intelligence levels. This emphasizes the evidence of Plate II. Seventy-nine cases or 55% are below average intelligence. In the Terman group, about 20% are below average intelligence.

The mean intelligence is 87.10. Standard deviation is 1.65. Terman's median is approximately 100. The average McCune boy belongs in the dull class 80-90 intelligence quotient. Allowing for the fallacies of averages and

PLATE IV
MENTAL AGE DISTRIBUTION
143 BOYS AT McCUNE HOME
BINET-SIMON SCALE



classifications on one factor alone, it appears that the McCune boy begins to emerge as a dull boy in early adolescence. The implications of dullness from a school room standpoint, and the early stages of adolescence add some definite strokes to the as yet vague picture.

Correlation Table No. 17 shows a correlation between Intelligence Quotient and Chronological age of $r = -.237 \pm .05$. The coefficient is small, but the fact that it is negative is of interest. The I. Q. is a measure of brightness. The older the McCune boy the less bright he tends to be.

3. Mental Age

Plate IV presents the distribution of mental age for the whole group as derived from the Binet tests. The mean is 10-9, with sigma, 2.85. The large frequencies are at 9, 10 and 11 years.

One fourth have mental ages between 6 and 9 years. One half have mental ages between 9 and 12 years. One fourth have mental ages between 12 and 17. There is an average retardation of two years. For school placement, the mental age distribution shows 25% of 1st, 2nd and 3rd grade ability; 50% of 4th, 5th and 6th grade ability; 5½% of 7th grade* ability and 20% superior to 7th grade ability.

The average McCune boy has a mental age of 10-9, capable of 5th grade work but two years older chronologically, than the average normal child in that grade.

*In the Kansas City, Mo. School system, to which McCune belongs, there are but 7 grades in the elementary schools, or below high school.

PLATE V

BINET SCATTER DISTRIBUTION

112 BOYS AT MCGUNE HOME

6 boys scattered 1 year			
24	"	"	2
28	"	"	3
25	"	"	4
7	"	"	5
17	"	"	6
2	"	"	7
3	"	"	8

No.
Cases

Mean (4 years 2nd over)
= 5.41

30

Sigma 1.66

25

Number 112

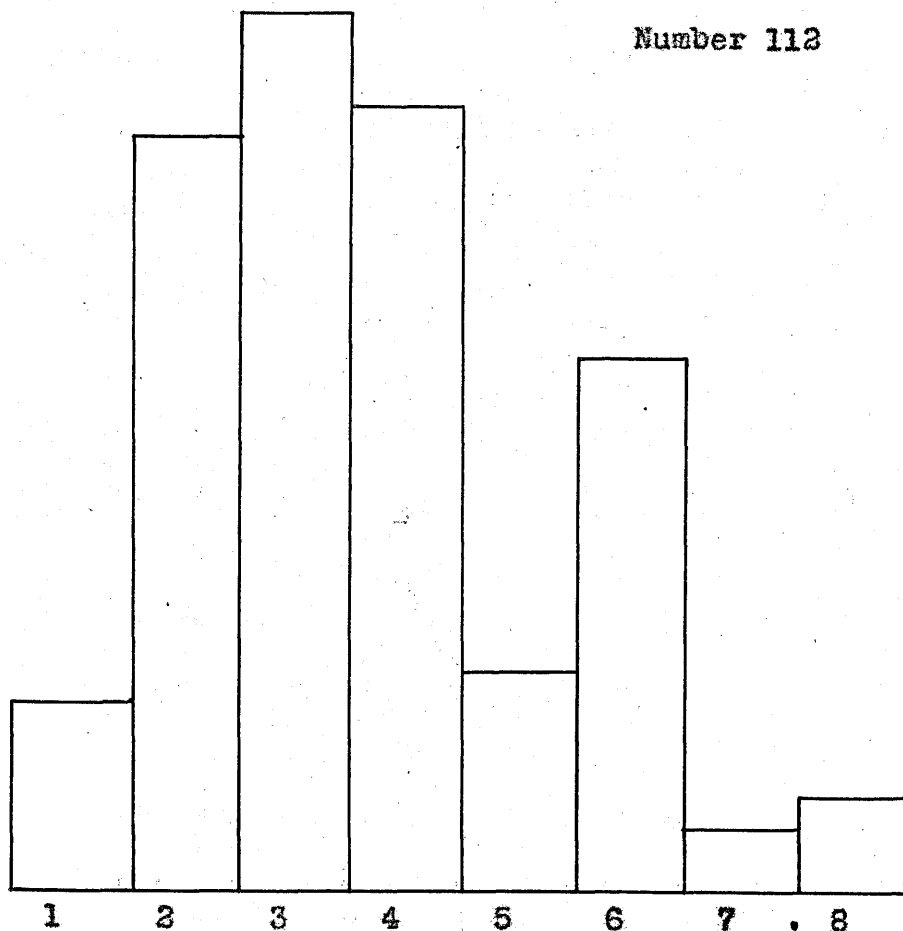
20

15

10

5

0



YEARS OF SCATTER

Correlation Table No. 1 shows that the correlation of mental age and chronological age is $r = .64 \pm .0333$.

Correlation Table No. 2 shows that the correlation of mental age and intelligence quotient is $r = .65 \pm .0326$.

4. Binet Scatter--Symptom of Psychopathy

The number of years which the child ranges above basal age is called the scatter after Miss Mateer's usage cited in Chapter II under Psychopathy, p. 19. Scatter is significant as a major symptom of psychopathy if the range above basal age is 4 years or more. Plate V shows that 54 boys at McCune scatter 4 or more years. The mean for this group is 5.41. Forty-six of the above fifty-four have an intelligence quotient above, 80, which means that in the group studied this psychopathic symptom appears largely on the higher mental levels.

It is well to remember that as psychopathy is malfunctioning, it may influence results on Binet tests, and although the present study does not claim to diagnose psychopathy, it discovers a group with significant symptoms with the consequent implication of unreliability of their reaction to Binet Test.

Correlation Table No. 3, shows the correlation of scatter and intelligence quotient is $r = .19 \pm .0613$. Of course a part of mental age is due to scatter, so this increase will be reflected in the quotient, in this group apparently more than compensating for the failures above basal age.

PLATE VI

INDIVIDUAL REACTIONS

KENT-ROSANOFF TEST, 122 BOYS

11 YEARS AND OVER

28 gave 1-9 individual reactions

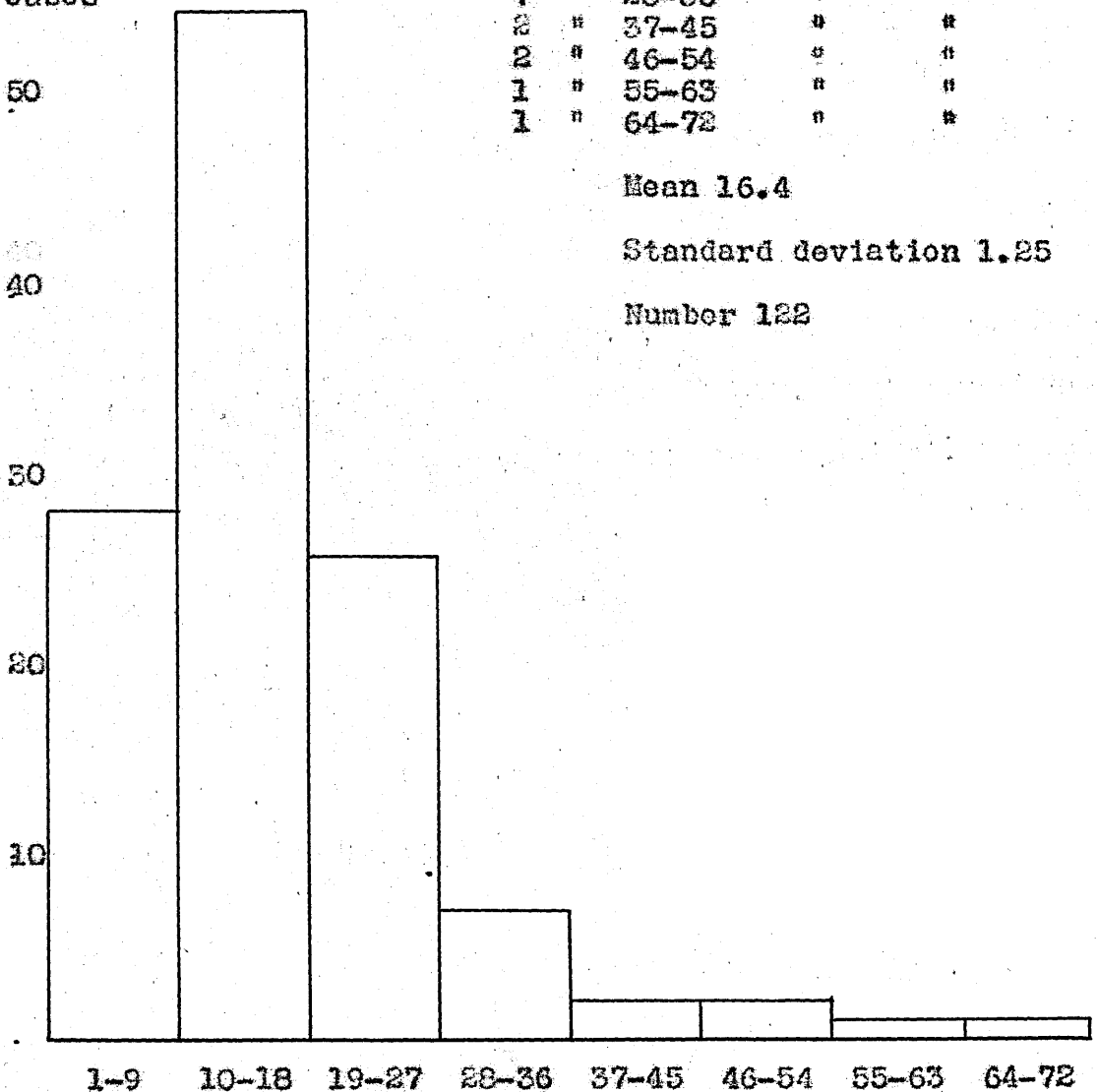
No.
Cases

55	"	10-18	"	"
26	"	19-27	"	"
7	"	28-36	"	"
2	"	37-45	"	"
2	"	46-54	"	"
1	"	55-63	"	"
1	"	64-72	"	"

Mean 16.4

Standard deviation 1.25

Number 122



Number of Individual Reactions

TABLE I

PERCENTAGE OF EACH MENTAL LEVEL HAVING TEN
OR MORE INDIVIDUAL REACTIONS ON KENT ROSANOFF TEST

11 years or over

Total Cases	Ab. Cases	Intel. Quo.			
12	12	70 and below,	100% gave ten or more Individual reactions		
26	25	70-80	88%	"	"
47	35	80-90	76%	"	"
31	20	100-110	66.7%	"	"
3	1	110-120	33.3%	"	"
2	1	120-140	50%	"	"
<u>1</u>	<u>0</u>	140 and over	0%	"	"
122	94	Total			

5. Individual Reactions# on the Kent-Rosanoff
Test - Symptom of Psychopathy

Plate VI shows the distribution of individual reactions on the Kent-Rosanoff test. In the original test Kent and Rosanoff* found the average number of individual reactions for the normal group to be 6.8. After examining 3,000 delinquent children with this test, Miss Mateer† believes that ten or more individual reactions may be symptomatic of psychopathy, so for this study ten or more individual reactions are taken to be of psychopathic import.

The mean for the group having ten or more is 19.5. Fifteen cases have more than 26.8, the average number for the insane. Ninety-four cases show 10-72. Not more than 12 of these 94 are below 70 intelligence quotient. Table 1 shows the per cent of cases having this psychopathic symptom, at each mental level.

Here, as in the Binet scatter there is evidence of psychopathy operative in mentalities of fair, medium, and good rating, as well as in mentalities so defective as to be eligible for institutions for the feeble minded.

Correlation Table 4 shows correlation of individual reactions and intelligence quotient is $r = -.43 \pm .05$. This would seem to support the assumption that psychopathy prevents true measure of intelligence.

*See Chap. II, p.

†See Chap. II, p. 11. Only cases over 11 years are considered in this group.

TABLE 2

CASES WITH TWO MAJOR SYMPTOMS OF PSYCHOPATHY

No.	Age	Mental Age	I. Q.	Binet Scatter	Ind. React.
12	13	9-1	69	5	18
20	14-9	9-4	63	7	28
25	11-2	9-1	80	5	20
28	13-4	13-2	99	6	10
33	12-6	10-7	84	4	15
44	11-8	8-9	74	4	27
53	10-10	11	103	6	12
54	11-6	7-10	68	4	27
55	12	9-8	83	6	13
57	11-9	10-4	88	5	22
62	10-11	10	92	4	12
71	11-11	10-4	86	4	11
81	12-4	13-5	110	6	10
82	18-10	17	90	6	10
83	13-0	7-11	61	4	22
85	11-9	10-1	86	4	19
86	16	16-8	104	4	18
88	15-8	11-9	75	4	13
89	11-4	8-6	75	4	23
93	13	10-5	80	4	16
97	13	10	77	4	15
112	16-10	16-5	98	4	18
116	14-1	14-5	103	4	25
121	15-5	13-7	88	6	18
133	12-4	10	81	4	27
134	15	12	80	6	12
136	15-7	14	90	4	14
140	13	11-8	90	5	13
Mean	13.35	11.5	85.14	4.75	16.9
Sigma	1.83	2.59	1.2	.95	5.68

Number = 28

Correlation Table 5 shows correlation of individual reaction with mental age is $r = -.42 \pm .05$

Correlation Table 6 shows correlation of individual reactions and Binet Scatter is $r = -.1825 \pm .06$

Evidently, for this group mental age varies inversely with number of individual reactions and again evidence--at least a hint--that psychopathy conditions intelligence.

That Binet scatter should show a negative correlation with individual reaction is interesting but the factors involved are probably not all apparent. It would seem that Scatter in this group tends to increase intelligence quotient, while Correlation Table 5 shows that for this same group high individual reaction means low intelligence quotient and vice versa.

6. Cases with Two Major Symptoms of Psychopathy*

Table 2 presents the cases having more than 4 years of scatter on the Binet and more than 10 individual reactions on the Kent-Rosanoff. The average scatter is nearly 5 years, the average number of individual reactions is 16.9. Two-sevenths of the group are below 80 intelligence quotient. One third are on the dull level. Since it has been assumed that malfunctioning due to psychopathy affects the scores on the Binet test--perhaps the 80-90 intelligences at McCune conceal some intellects better than that score would imply.

One third are of normal intelligence, a single case is above. Here, as at the other levels, one might expect

*Only cases over 11 years are considered in this group.

PLATE VII

SOCIAL INDEX DISTRIBUTION

122 BOYS 11 to 18-10 YEARS OLD

S. I. No. Cases

5-9.9	1
10-14.9	2
15-19.9	6
20-24.9	7
25-29.9	13
30-34.9	21
35-39.9	22
40-44.9	18
45-49.9	16
50-54.9	10
55-59.9	5
60-64.9	0
65-69.9	1

Mean 37.42

Standard deviation 2.22

Number 122

No.
Cases

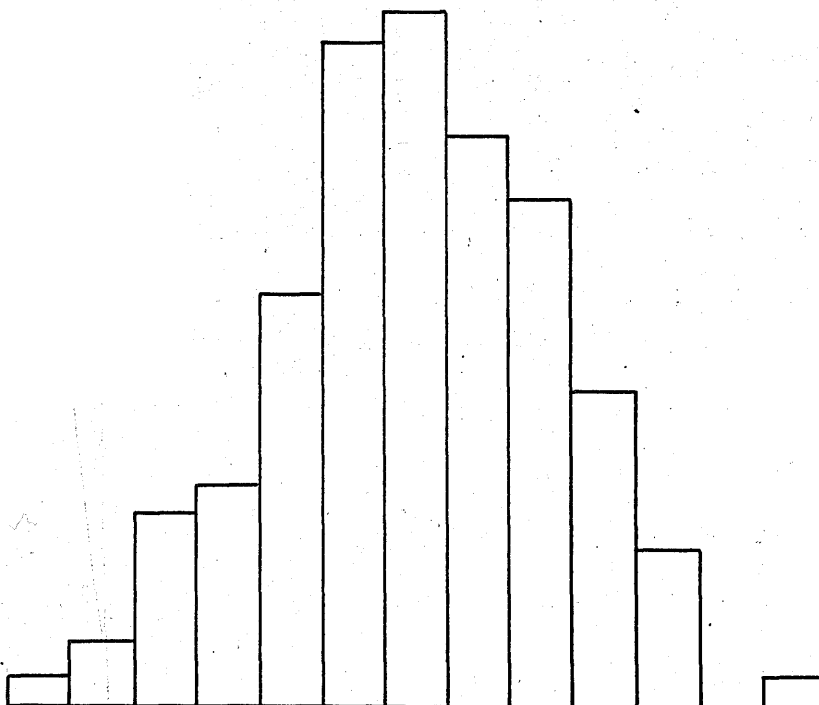
20

15

10

5

0



5 10 15 20 25 30 35 40 45 50 55 60 65
9 14 19 24 29 34 39 44 49 54 59 64 69

Social Index

some cases to fail to do their intellects justice on the Binet Scale.

It seems that every fifth boy at McCune betrays two major symptoms of psychopathy, with its implication of concealing actual measure of intelligence, as well as its subjecting of intellect in social conduct.

There are 123 cases having one or both of the symptoms of psychopathy, which have been previously mentioned in this study, so the average McCune boy is very likely to display at least one major symptom of psychopathy.

7. The Social Index

The Social Index has been described in Chap. IV, p.25. In the correlations, tabulations, etc. with the social index, only the cases 11 years* of age or over have been used because the Rosanoff (28) and Otis (29) studies are agreed that children's associations are not like adults. Otis finds that although the 8 year old reacts with 1 word he has not reached adult association level and the Rosanoffs find that "Items of difference are confined to children under 11 years of age."

Plate VII presents the distribution of Social Index. The median is 37.42, $\sigma = 2.22$. Table No. 7 shows that the correlation of social index with intelligence is $r = .441 \pm .05$, showing a strong tendency for the better intelligences to also

*Except with chronological age, this correlation was made to verify the age limit.

(28) Rosanoff, A. J. and J. R., A Study of Association in Children, Psych. Review 1913, p. 250-253.

(29) Otis, M. A., Study of Association in Defectives. Journ. of Ed. Psychology, Vol. 6.

display the higher social index. Six-tenths of those having social index 50 or above have intelligence quotient 90 or above. Two-thirds of those having social index 40 to 50 have intelligence quotient 90 or above. One-third of those having social index 30-40 have intelligence quotient 90 or above. One-fourth of those having social index below 30 have intelligence quotient of 90 or above.

The correlation with judges rating is "markedly present", evidence that judges rating tends to increase with social index. (See Correlation table No. 8)

Correlation with judges rating $r = .367 \pm .05$

Correlation with Mental Age $r = .418 \pm .05$ (See Cor. Table No. 9)

The correlation with mental age emphasizes the part played by intelligence in social index scores. The strong correlation with judges rating offers evidence that social index has value as a measure of adaptability. The thirteen failures tabulated under Present Adaptation,* p. 51 show 9 are below the median social index 37.42 while the average social index for the 13 is 34. Thirty-four successes 11 years and over have an average social index of 42 while only one-fifth are below the median. The comparison, thus, of failures and successes offers further evidence that social index, classifies as to adaptability.

See Home Rating, p. 39.

*Selected from Table 7 (above 11 years) p. 51.

*Selected from Table 9

Then the average McCune boy has a social index,--signifying social adaptation,--of 37.42. If he is to succeed we apparently may expect him to have a social index of 42 or more and if he falls as low as 34 we will feel doubtful about his success. There are 50, in the group measured by social index, below 35.

Correlation tables Nos. 10, 11, 12 , display correlations of the social index with other features. There is low correlation with Binet Scatter which might be accidental as the number of cases is small. A positive correlation would be expected because of the high M. A. correlation. Correlation is also "present but low" with home rating* which might be expected. Correlation with Chronological age is marked (143 cases) and lends evidence that an age limit is essential, and suggests that adaptability increases with the maturing process.

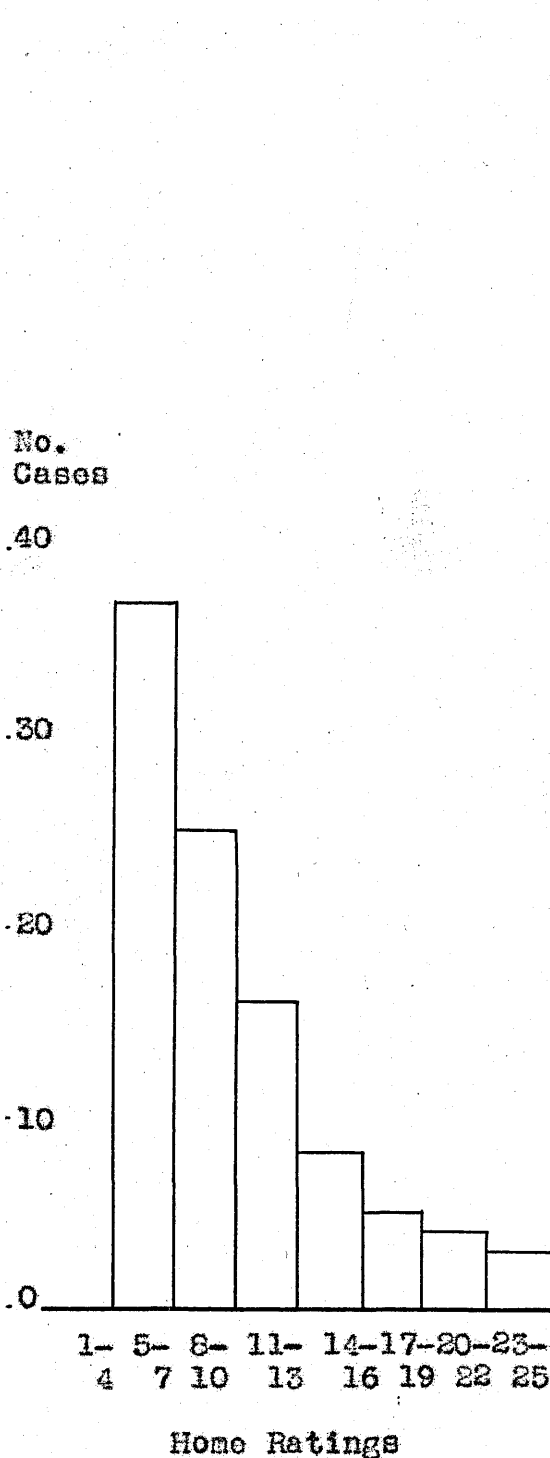
8. Home Ratings*

Plate VIII shows the distribution of home values for 101 boys. The shape of the histogram is significant. The very largest frequency is in next to the lowest class interval and there are no cases in the lowest. Table 3 shows the features scored and the frequencies in each of 5 scores for every feature. In each feature the largest frequencies are on the lowest score, and the next largest frequencies are on the next lowest score in each feature scored. (Table 3 ^{cut out} varies a little from the array and histogram on Plate IX be-

*See below.

*See Chapter IV, p. 25.

PLATE VIII
HOME RATINGS DISTRIBUTION
101 Cases



Home No. of
Index Cases

25	3
24	0
23	0
22	0
21	1
20	3
19	2
18	2
17	1
16	2
15	6
14	3
13	8
12	4
11	4
10	9
9	11
8	5
7	14
6	5
5	18
4	0
3	0
2	0
1	0

Mean 10.44

Sigma 4.94

Total Cases 101

TABLE 3
HOME RATINGS 101 CASES
EACH IN FIVE FEATURES

Rating	Necess- ities	Neatness	Size	Parental Condition	Parental Sup'v.
5	10	14	10	5	4
4	8	18	8	8	2
3	14	17	7	13	13
2	39	19	27	35	37
1	30	33	31	40	45
Totals	101	101	101	101	101

Column at left is scale of values for each of the five features scored--thus, 10 homes were scored 5 in necessities; 8 were scored 4 in necessities; 14 were scored 3 in necessities, etc.

cause in a few cases later information was available. The difference is so small that Plate ~~IX~~⁶ was left with original scores.)

The histogram is so far from the normal curve that one knows in advance correlation must be low with factors approaching a normal distribution.

Correlation table No. 13 shows correlation with intelligence quotient is $r = .334 \pm .06$.

Correlation table No. 14 shows correlation with judges rating is $r = .245 \pm .06$.

Correlation table No. 11 shows correlation with social index is $r = .329 \pm .06$.

The median rating is 10.4, $\sigma = 4.94$, but it is not to be inferred that a home scored 10.4 is an average American home. Those scored above 20 would probably approach the popular estimate of "average American". The median places the McCune boy about half way between average home and nothing.

A. Location of Homes

The location of homes of McCune boys, aside from a small percentage outside of Kansas City, and an occasional case from unexpected territory inside the city, is in four districts of definite quality. The first is the Italian quarter north and east of the court house (immediately). Its "adverse circumstances" have been often exploited and need to be detailed but briefly. The gist of the situation is the Italian restaurant where only boys and men gather

at night. No woman dreams of entering there, even in the daylight, without a man. Here the ward boss and his under-studies hold forth. The underworld feels at home and the mistaken standards of Italian masculine behavior are encouraged and intensified. It is trite to speak of the streets full of untidy, sallow Italian children. There is little traffic on these streets and if the poisonous current from the restaurant club-houses could be shut out, the street play is not necessarily bad. The homes are quite largely separate, clean, having several rooms. Children run in and out unceremoniously, and monopolize mother's caller. This is often, however, to act as interpreter. The Italians are very affectionate with their children which may tend toward indulgence. McCune doesn't have so many Italians as one might expect from the bad circumstances and they are often beautiful, amiable boys.

Another locality is the Jewish, not so definitely bounded, made up of several scattered Jewish neighborhoods. The McCune boys from these homes have not had other than the common disadvantages save that of parents who do not speak much English and consequently do not properly recognize and interpret the beginnings of delinquency in their boys, such as truancy, staying out nights, etc. The language limitation makes it easy for the child to deceive the parents, about his habits until there is some obvious misdeed, or continued truancy causes school authorities to send the child to

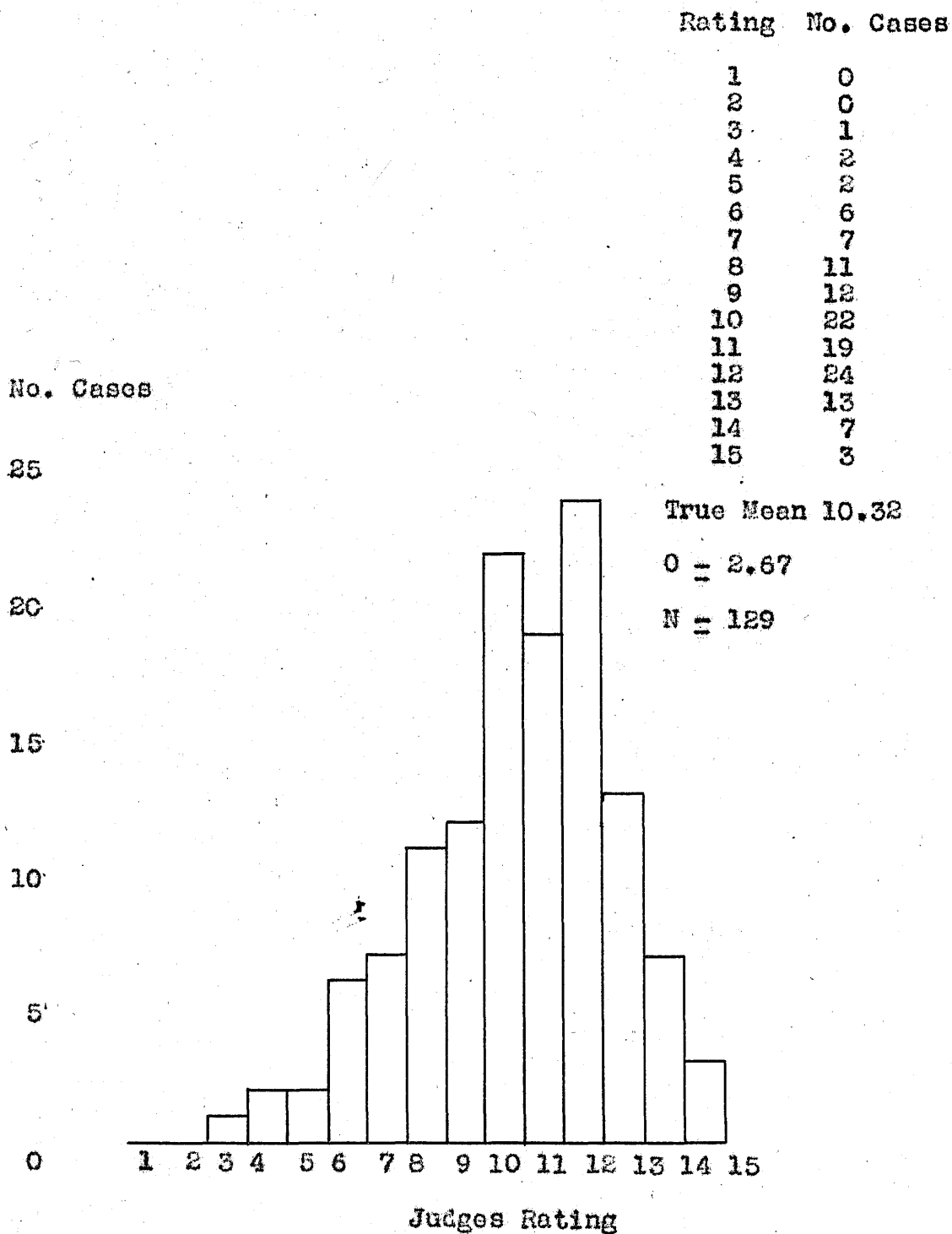
McCune.

The rooming house district is most largely productive of McCune boys. From 8th Street to 20th Street and from ten blocks east to eight west of Main, is a locality with many rooming houses where whole families live in one room. Such families are small but may contain grown step daughters, half grown sons, mother and step-father, or Uncle and Aunt with the orphan nephew of 14 years whom they are raising, or most frequently divorced mother and the paroled McCune son--sometimes another child or two.

Such houses hold many such families. Among them the denizen of the underworld is safely hidden. The atmosphere is kindly. Tired working mothers are sure of neighborly sympathy, and usually a lady who lives without labor will take care of a young, amiable child while the mother works. Older boys and girls go to school, playing about in the streets outside of school hours. There are cheap movies near at hand, and a few blocks walk, even for the farthest, brings exploring, excitable, childhood to Twelfth Street where at all hours hold forth those who make a business of pandering to the senses.

The fourth locality is well east of Troost and from Fifteenth, South to the Forties. The homes here are separate with large lots, often trees and flowers and in some instances very fine dwellings on very respectable streets. Three very intelligent boys from this neighborhood agree in their relation of a bad gang's activities. One gets the

PLATE IX
DISTRIBUTION OF JUDGES' RATING
129 BOYS



impression after listening to several mother's stories that the gang was permanently adventuring for some years. Its most influential leader was Roscoe Brown--Brownie, the Goat. A boy who has been in a hospital for the insane. Another was Frank Dinwiddie, feeble minded, psychopathic, syphilitic, cross-eyed, double teeth-all-the-way-around, born with one hand, with a mysterious leer*. Seven boys of fine intelligence from this locality have been in the courts in recent years. Four of the seven were associated with the two boys named in delinquency escapades.

9. Judges Ratings

Plate IX displays a histogram of judges ratings for 125 boys. It is a little ~~askewed~~ skewed to the right which accounts for the high median 10.32, $\sigma = 2.67$.

Correlation table No. 15 shows correlation of judges rating with intelligence quotient is $r = .432 \pm .05$. In this case "correlation is marked".

Correlation table No. 8 shows correlation of judges rating and social index $r = .367 \pm .056$, a correlation also considered "marked".

It is to be expected that intelligence quotient and social index will tend to increase as judges ratings increase.

Correlation table No. 16 shows correlation of judges

*Since the above report was written F. D. has been committed to the institution for the feeble minded at Marshall, Mo.

TABLE 4

CAUSE OF COMMITMENT

134 BOYS AT McCUNE

Court Charge	No. of Cases
Neglect	57
Stealing	21
Incorrigible	9
Truancy - Stealing	7
Truancy	5
Runaway	4
Incorrigible - Stealing	4
Neglect - Incorrigible	4
Neglect - Truancy	4
Truancy - Incorrigible	3
Vagrancy	2
Truancy - Stealing - Incorrigible	2
Stealing - Degeneracy	2
Neglect - Stealing	2
Throws rocks at trains	1
Truancy - Neglect - Stealing	1
Stealing - Runaway - Masturbation - Incorrigible	1
Neglect - Stealing - Incorrigible	1
Cruelty - Stealing	1
Sex	1
Forgery	1
Stealing - Immorality - Cruelty	1

Total cases for each type of delinquency including those of more than one charge.

Neglect	69
Stealing	40
Truancy	22
Immorality	5
Runaway	2
Vagrancy	2
Cruelty	1
Forgery	1
Throws rocks	1

rating and individual reactions on the Kent-Rosanoff is $r = -.43 \pm .053$. As might be expected the correlation is negative. Psychopathy would of course vary inversely with character rating.

Correlation table No. 14 shows the correlation of judges rating and home rating is $r = .245 \pm .063$. As has been pointed out the uneven distribution of home ratings prevents a striking correlation with a factor approaching a normal curve in distribution.

The mean judges rating can hardly be said to describe the average McCune boy until we investigate the adaptation of those rated. The average of the 10 (out of 13) failures* that were rated by judges is 8.6. The 40 cases of success have an average judges rating of 11.

The failure falls below the median. The success is but little above it. The boy exactly at the mean seems to have a good chance at success.

10. Cause of Commitment

Table 4 sets forth the cause of commitment. This differs from the charge on the official document which commits the child to McCune. The charge is always a general term—nearly always is either "neglect" or "Delinquency".

Table 4 is the author's abstract of case histories expressed in terms of kinds of delinquency. Case histories are mailed with commitments, from juvenile court officers

*See page 48 present chapter.

to McCune, and in commitments, data for the new offense is typed and sent to McCune to be filed with original data. In the appendix, will be found a sample of commitment and case history. The commitment reads merely "Delinquent child", the case history was summarized for Table 4; "incorrigible, steals, truancy". Each case history was read by the writer and, as nearly as possible, the terms describing attitude, acts or conditions which caused the child to be sent to McCune, were selected for the tabulation.

Three of the terms used, "neglect", "incorrigible", "stealing" have the following significance:

"Neglect" was assigned as cause of commitment if the child was shown to be without necessary supervision and becoming delinquent for this reason; or if the record showed the natural supervisors could not for financial reasons, sickness, etc., take care of the child. If the child was young and came under either of the descriptions above the word was recorded alone as cause of commitment although there was evidence of delinquency.

If the child was ten years old or more and there was history of repeated wilful misdemeanors, other terms descriptive of these misdemeanors, were added to "neglect", although the commitment might have but the one word "neglect".

The word "incorrigible" is used to describe the charge when history says the child cannot be controlled by parents or guardians. It is sometimes used alone, even when there are one or more minor delinquencies which bring the child

into court for trial and the parents confess their continued failure.

Stealing is used in every case of seizing another's property--whether of small or great value.

Other terms used are self explanatory.

Table 4 shows that aside from "Neglect" which encourages delinquency, (the term as explained covers some cases already exhibiting delinquent traits) the two charges with most cases are "stealing" and "truancy." "Forgery"--1 case, and "throws rocks"--1 case--may be added to the first and the 42 cases classed as offenses against--property. Truancy, vagrancy, runs-away-from-home are all rebellion against society's dictates as to place where youth should be. There are 26 such cases.

Of 134 McCune boys, 42 lack property sense, 26 rebel against place limitations, 5 are immoral, 1 is cruel, 69 are neglected, with minor delinquencies in many cases.

11. Physical Condition

Table 5 shows the physical condition of 88 of the 143 cases studied, Table 6 shows the number of cases of each ailment, and Table 7 shows the number of ailments per boy. Some ailments are so much more significant than others, that kind of diseases overshadows numbers of diseases so correlations would be of dubious value.

From Table 6 it will be seen that diseased teeth and tonsils, and syphilitic infection--all poison sources-- are respectively 63, 48 and 28 in number of cases or 72%

TABLE 5 PHYSICAL CONDITION

88 cases																	
Age	Mental Age	Ind. React.	Wasserman	Salvarsan	Ears	Throat	Teeth	Diphtheria	Typhoid	Smallpox	S. Fever	Measles	Impetigo	Itch	Tonsil & Adenoid	Eyes	No. of ailments
11-6	9-7	43	x	x			x										2
11	9-11	18	x	x											x		2
15-5	13-7	18															0
12-5	11-5	11	x				x					x			x		3
15	13-2	1	x									x					1
10-9	14-10	18	x												x	x	2
12-4	10	27													x	x	2
15	12	12															0
16-4	9-2	12					x									x	2
15-7	14	14					x								x		2
16-2	15-2	5					x								x		2
15-9	14-5	8				x									x		2
13	11-8	13					x								x		2
14-6	14-10	6															0
12-10	10-	15	x			x	x						x		x		4
Totals			60	26	3	13	48	0	0	7	15	14	15	17	63	40	

TABLE 5 PHYSICAL CONDITION

88 cases																	
No. of ailments	Eyes	Tonsil & Adenoid	Itch	Impetigo	Measles	S. Fever	Smallpox	Typhoid	Diphtheria	Teeth	Throat	Ears	Salvarsan	Wasserman	Ind. React.	Mental Age	Age
2		x								x				x	22	7-11	13
2		x								x				x	21	11-3	13-5
3		x	x			x								x	19	10-1	11-9
0															18	16-8	16
8	x		x	x	x	x				x	x	x		x	13	10-8	12-3
6	x	x	x	x		x							x	x	23	8-6	11-4
1													x	x	16	10-5	13
Tr. 3	Tr.	x											x	x	15	10	13
2				x						x				x	20	10-2	10-7
2		x											x	x	34	9-3	12
11	x	x	x	x	x	x	x			x	x	x	x	x	16	11-9	14-9
2		x								x				x	18	16-5	16-10
3		x				x				x				x	25	14-5	14
3		x	x							x				x	10	12-9	11-7

TABLE 5 PHYSICAL CONDITION

No. of ailments	Eyes	Tonsil & Adenoid	Itch	Impetigo	Measles	S. Fever	Smallpox	Diphtheria	Typhoid	Gleeth	Throat	Ears	Salvarsan	Wasserman	Ind. React.	Mental Age	Age
8	x	x	x			x	x			x	x		x	x	12	10	10-11
1													x	x	3	13-10	7
2	x	x													33	7-6	9
3	x	x									x		x		16	9-3	12-7
7	x	x	x			x	x			x			x	x	31	9	9-6
1	x														49	9-6	8
2	x										x				40	6-8	6
5		x	x	x						x			x	x	48	7-8	9
3		x	x							x			x			6-10	7-3
3		x								x			x	x	25	9-2	12-8
1		x											x		19	8-2	10-10
2		x								x				x	26	8	10-7
0															10	13-5	12-4
0															10	17	18-10

TABLE 5 PHYSICAL CONDITION

No. of ailments	Eyes	Tonsil & Adenoid	Itch	Impetigo	Measles	S. Fever	Smallpox	Typhoid	Diphtheria	8 cases Teeth	Throat	Ears	Salvarsan	Wasserman	Ind. React.	Mental Age	Age
3	x	x	x											x	27	8-9	11-8
4	x	x								x			x	x	21	11-10	13-11
1											x				27	8-2	15-5
5		x				x	x			x			x	x	30	7-10	10-7
1		x													6	13-10	12-6
2		x								x				x	10	11-2	12-1
6		x	x		x	x	x			x				x	15	10-9	12-4
3		x								x			x	x	17	8-7	12-9
5	x	x	x							x				x	12	11	10-10
3	x	x											x	x	27	7-10	11-6
2		x								x				x	13	9-8	12
4		x	x							x				x	27	7-10	8-2
3		x								x			x	x	22	10-4	11-9
2	x	x													6	13-1	12-11
0														x	26	8-4	10-7

TABLE 5 PHYSICAL CONDITION

Age	Mental Age	Ind. React.	Wasserman	Salvarsan	Ears	Throat	8 Diphtheria	9 Scarlet	10 Typhoid	Smallpox	S. Fever	Measles	Impetigo	Itch	Tonsil & Adenoid	Eyes	No. of ailments
11- 2	9- 1	20	x				x				x				x	x	3
14- 9	9- 4	28	x												x		1
9- 2	7- 5	35	x			x							x		x	x	4
9- 11	7- 4	36	x	x		x	x					x		x	x	x	7
13- 4	13- 2	10													x	x	2
10- 6	10- 10	10	x				x								x	x	3
6- 8	7- 8	47	x	x			x								x	x	4
11	9	26													x	x	2
10- 6	7- 2	16	x	x			x								x	x	4
14- 10	16- 4	6													x	x	2
11- 11	10- 4	11													x	x	2
9- 2	9-	27	x				x				x	x			x	x	5
10- 3	8- 8	18	x	x												x	2
8- 8	7- 6	31	x	x			x				x		x		x	x	6
11- 11	9	20	x	x			x				x		x	x	x	x	7

TABLE 5 PHYSICAL CONDITION

No. of ailments	Eyes	Tonsil & Adenoid	Itch	Impetigo	Measles	S. Fever	Smallpox	Typhoid	Diphtheria	Teeth	Throat	Ears	Salvarsan	Wasserman	Ind. React.	Mental Age	Age
3	x	x								x	x				8	16-7	11-7
4	x	x					x			x					15	10-3	11-6
37																7-8	9
3	x	x			x						x			x	6	12-3	13-3
2		x								x					47	10-5	12-9
5		x	x	x	x					x				x	18	9-1	13-
9	Tr.	x			x	x	x			x	x	x	x	x	18	10-5	15-7
6	x	x		x	x					x			x	x	19	8	8
3		x			x					x				x	8	10-6	14-3
2	x	x													20	8	10-10
2	x	x													4	14	12-9
4	x		x			x				x				x	21	7-4	7-1
5		x		x	x					x			x	x	20	9-3	7-10
5		x		x	x					x	x			x	18	9-9	9-4
8															8	10-8	10-2

TABLE 6. NO. OF CASES OF EACH AILMENT

Tonsils and adenoids	63 cases
Teeth--Caries, crowding, pyorrhea	48 "
Eyes--Myopia, astigmatism, trachoma	40 "
Salvarsan--Syphilitic infection	28 "
Itch--Scabius	17 "
Impetigo	15 "
Scarlet Fever	15 "
Measles	14 "
Throat	13 "
Smallpox	7 "
Ears--Otitis Media	3 "

TABLE 7. NO. OF AILMENTS PER BOY

8 boys had no ailments
4 " " 1 ailment each
21 " " 2 " "
14 " " 3 " "
15 " " 4 " "
9 " " 5 " "
6 " " 6 " "
4 " " 7 " "
3 " " 8 " "
2 " " 9 " "
1 " " 10 " "
1 " " 12 " "

54% and 32% each of the 88 boys examined. Scarlet Fever and measles which may leave serious chronic derangements, have visited 1/6 of the group. Impetigo and itch, severely irritating, have each about the same—1/6 of the group. Eyes—source of nerve strain—were defective in nearly 1/2 of the group. (There were two cases of Trachoma.) How many of the teeth cases were painful is not recorded. Ear cases were all painful. Throat cases are not described. (Taken from hospital record)

The salvarsan treatment implies a blood test,—Wasserman,—which revealed active syphilitic infection. In all but one of the 28 cases, the boy had more than 10 individual reactions on the Kent-Rosanoff Association test. The one exception had a Binet scatter of 6 (See p. Chap. VI). Miss Mateer as well as Goddard suspect that the syphilitic infection bears a significant relation to psychopathy—hence the interest attaching to this diagnosis.

The Wasserman test is not final in diagnosing syphilitic infection. Tests of spinal fluid would doubtless reveal more cases, besides, only 61 Wasserman tests were made, which makes the 28 cases nearly 50% of those tested. It is, of course, understood that this is congenital syphilis.

12. Present Adaptation.

The 103 cases presented are those of whom the writer has had personal information. The successful boys return to McCune for Sunday visits quite often and tell of their

TABLE 8 TABULATION OF 40 SUCCESSES

Chron. Age	Mental Age	Judges Rating	Social Index	Home Rating	Binet Scatter	Ind. React. K-R	Phys. Defects	Charge
13-7	13-10	12	56	25	6	3	Syph. Ton. W.	Stealing
9-	7-6	10	24	7		33	Eyes	Neglect
15-11	14-8	11	51	10		14	No record	Stealing
10-10	8-2	13	57	15		19	Ton. W	Neglect Stealing
13	15-2	11	53	19		15	No record	Truancy
18-10	17-0	10	41	19	6	10	" "	Hab. Steal.
15-7	14-0	No record	38	20	4	14	Ton. Teeth	Sex
16-1	16-4	" "	51	20	4	4	No record	Forgery
Av.	Av.	Av.	Av.	Av.	Av.	Av.	21 Ton. 12 Teeth 13 Eye 5 Syph. 14 W.	18 neglect 13 stealing 3 truant 3 incorr. 2 immoral. 1 forgery
12-5	11-5.3	11.3	42	11.35	3.82	.4		
Mean for whole group								
12-4	10-9	10.9	38.07	10.3	5.41	16.4		
			(11 yrs.)			(11 yrs. or over)		

TABLE 8 TABULATION OF 40 SUCCESSES

Chron. Age	Mental Age	Judges Rating	Social Index	Home Rating	Binet Scatter	Ind. React. K ^{ON} R	Phys. Defects	Charge
12-6	10-7	13	33	7	4	15	W. Ton. Te Im.	Truancy, Stealing
14-10	16-4	9	50	9	4	6	Eyes Ton.	Neglect Truant
9-2	9-9	13	13	10	1	27	Ton. W Te Eyes M S F	Neglect Truant
10-3	8-8	6	32	No record		18	W. Syph. Eyes	Stealing "
14-9	12-6	9	45	7	8	6	No record	Immoral.
12-5	13	11	38	9	3	10	" "	Neglect
10-4	11	13	39	9		16	" "	"
11-8	8-9	12	28	7	4	27	Ton. W I Eyes	Truancy, Neglect
13-11	11-10	13	34	8		21	Syph. Ton W Eyes, Teeth	" Stealing
7	6-6	11	19	10		35	No record	Neglect
15-5	8-2	9	27	10	2	27	Ton.	"
12-6	13-10	12	47	13	8	6	" " W	Stealing
12-1	11-2	12	43	13		10	Teeth	No record
12	9-8	10	44	25	6	13	Ton. W Teeth	Incorri- gible
11-9	10-4	11	31	8	5	22	W. Syph. Ton.	Steal. Tru ant
12-11	13-1	12	54	9	6	6	Teeth Ton. Eyes	Stealing

TABLE 8 TABULATION OF 40 SUCCESSES

Chron. Age	Mental Age	Judges Rating	Social Index	Home Rating	Binet Scatter	Ind. React. K - ^{on} R	Phys. Defects	Charge
11-7	16-6	10	51	25	6	8	Tons. Teeth Eyes	Stealing
11-6	10-3	9	19	5	1	36	Tons. W Teeth	Neglect
11-3	11-3	12	49	10	2	15	No record	"
11-3	11-3	10	44	10	1	8	" "	"
13-6	9-7	10	38	7	2	18	" "	"
13-1	12-6	13	48	10	6	6	" "	"
13-3	12-10	13	48	10	6	6	Eyes W Ton. M	"
12-9	10-5	11	24	16	3	47	Teeth Tons.	Stealing, Truant, Incorrigible
12-2	10-2	12	38	13		18	No record	Neglect
13-11	10-44	14	58	8	0	4	" "	Truant, In- corrigible
10-10	8	10	38	7	3	20	Tons. Eyes	Neglect
12-9	14	12	56	9	4	4	Ton. Eyes W	"
7-1	7-4	15	38	7	3	21	Teeth SE Eyes, I	"
11-2	10-8	11	43	5	6	8	No record	Truant Neglect
13-2	12-5	12	38	5		10	" "	" "
11-2	9-1	13	38	7	5	20	Ton S F W Eyes Te	"

work. The superintendent and his wife kept themselves informed about paroled boys, assisting in securing employment for them and helping them by advice and kindness to get established in normal life. Their information was available to the writer. Probation officers at Detention Home were also sources of information. The press sometimes reports failures. The superintendent, too, hears of all re-arrests--always on court day looks through the court record to see what cases may not have been tried in his presence, so the information on present adaptation is from reliable sources.

There are 36 unproved (paroled less than 1 year or still at McCune).

There are 16 unknown (paroled more than 1 year and lost sight of).

The "Successes" are boys who have been paroled more than a year, have been released from reporting, (1), and if old enough are known to be holding a job.

Table 8 was developed to display the characteristics of McCune boys who succeed.

It will be seen from this table that 7 boys are of inferior intelligence. Three of these are Italians, (who test about 20% below Americans). Two of the 7 are on farms with intelligent supervisors, two, unexplained success.

(1) Boys paroled are required to report to court officials at stated intervals for at least six months.

TABLE 9 TABULATION OF 13 FAILURES

No. Diseases	Boys No.	Home rate	I. Q.	Social Index	Judge Rate	Binet Scatter	Ind. React. on K. R. Test	Syphil. Infect.	Present Location
10	13	18	67	33	7	not re- corded	18	yes	Marshall Mo. Home for Feeble Minded
2	28	8	99	44	10	6	10	No Record	Wanted at Reforma- tory, Booneville, M
5	34	5	68	38	7	5	16	Yes	Reformatory, Boon- ville, Mo.
No Record	72	5	85	22	4	5	Under 11 yr. 48	Yes	McCune Home-return
3	83	8	61	31	7	4	32	No by Wasserman	" " "
9	88	20	75	32	10	4	13	Yes	" " "
3	101	10	77	16	7	2	14	"	" " "
12	104		80	44	10	3	16	"	" " "
No Record	108		118	35	12	6	9	"	" " "
3	112		103	24	12	4	18	No by Wasserman	Reformatory, Booneville, Mo.
No Record	130	10	83	59		6	9	No record	Penitentiary Jefferson City.
No Record	131	9	135	35		4	18	No by Wasserman	Reformatory, Booneville, Mo.
No Record	133	7	81	21		4	27	No Record	"
Averages		10	85	34	86	5.3	17		

There are 5 boys with very many individual reactions --Nos. 3, 10, 44, 47, 64. If they were removed from the group, the average for the remaining ones would be 10.5.

The Average Success is 12-5 years old; his mental age is 11-5; the judges rate him at 11.3; his social index is 42; his home rating is 11.35; his Binet Scatter is 3.82; his individual reactions number 14; he has an even chance to have had tonsils or to have had them removed; he has a 33% chance to have defective teeth and vision; and syphilitic infection.

He was at McCune for neglect, stealing, or truancy.

Thirteen Failures

Table 9 was developed for the 13 boys definitely known to have failed to adapt themselves when returned to normal life. The homes of all but 3 are below median of home ratings. All but 4 are below average intelligence; nine are below median for social index, 37.5; eleven have 4 or more Binet Scatter; Eleven have 10 or more individual reactions on the Kent-Rosanoff test; seven have been found syphilitic by Wasserman test, three gave negative reaction, three no record.

The known failures all have been at McCune two times or more, except Nos. ^{two}28 and 130. ^{One of these}No. 28 was unmanageable at McCune and was transferred to the Reformatory from which he escaped. ^{The other}No. 130 escaped from McCune and was later sent to

*One is under 11 years.

Reformatory for theft, was paroled and while on parole committed murder. He was sentenced to serve 35 years in the state penitentiary but the sentence has recently been reduced to 7 years.

No. 108 is a boy who runs away from home. He loves his home and his large family, but since he was 4 years old has been running away, so his mother says. He has been sent to McCune three times. There seemed to be no delinquent tendencies but the running away. When he was returned to McCune the second time at the age of 11 years he had an hysterical fear of any boy who showed fight or ran after him. He screamed for help and ran as fast as he could without any attempt at self defense, whenever assailed. He was given a little boxing experience --he was compelled, much against his wishes, to stay in the ring and return the carefully administered blows of his antagonist. Two lessons overcame the running and screaming.

If one averages the 13 histories he find an I. Q. of 85; a social index of 33; a Binet Scatter of 5.3; individual reactions 17; more than a 50% chance to be syphilitic, home rating 10, Judges rating 8.6.

Putting it another way the average failure of these 13 boys is below average intelligence, below median social index, his home is rated 10, judges rate him 8.6, he has two major symptoms of psychopathy and by actual Wasserman test very likely is syphilitic.

CONCLUSIONS

Answers to the Twelve Questions Set up to Delimit
the Specific Problem—Chapter III

(Correlations under First Eleven Heads)

1. What are the Chronological Ages of the Boys
in the Group Studied?

There are 143 boys between the ages of 6 and 18-10,
but 87 cases lie between 11 and 13-11.

The mean is 12-4, $\sigma = 2.35$

Correlation of chronological age with:

Mental age $= .64 \pm .03$

Social Index $= .38 \pm .05$

In the normal group the correlation of chronological
with mental age would approach unity so the correlation
in this study may be taken as something of a measure of
the abnormality of the group. The correlation with social
index suggests that maturity is concerned in adaptability.

2. What are the Intelligence Quotients of the
Boys in the Group Studied?

Intelligence Ratios distribute over the Binet Scale
from I. Q. 54 to 142. The mean intelligence quotient is
87.10; σ , 1.65.

Correlation of Intelligence Quotient with:

Chronological age $= .237 \pm .05$

Mental Age $= .65 \pm .03$

Binet Scatter $= .19 \pm .06$

Individual Reactions $= -.43 \pm .05$

Social Index $= .441 \pm .05$

Home ratings $= .334 \pm .06$

Judges ratings $= .432 \pm .05$

The intelligence quotient correlates strongly with social index, judges ratings, and (negatively) with individual reactions. These consistent correlations are discussed under other heads. The coefficients of correlation with chronological and mental age seem to measure the abnormality of the group in those features since they would approach unity in the normal group. The other correlations are discussed under their various heads.

3. What are the Mental Ages of the Boys in the Group Studied?

Mental age shows an average retardation of 2 years. The mean is 10-9 with sigma 2.85. The middle 50% lies between 9 and 12 years

Correlation of mental age with:

Chronological age $= .64 \pm .03$

Intelligence quotient $= .65 \pm .03$

Social Index $= .418 \pm .05$

The first two are discussed under other heads. The correlation with social index is indicative of the relation of adaptability to intelligence.

4. To what Extent Does Each Boy Scatter on the Binet Test?

There are 54 cases with 4 or more Binet Scatter and

45 of this number are of adequate intelligence, or better, that is 80 or above on Binet Scale. The mean is 5.41 and Sigma is 1.66.

Correlation of Binet Scatter with:

Intelligence Quotient $\bar{r} = .19 \pm .06$

Individual Reactions $\bar{r} = -.1825 \pm .06$

Social Index $\bar{r} = .299 \pm .06$

Since elsewhere it is assumed that psychopathy may condition reactions to the Binet scale, the positive correlation of scatter and intelligence quotient may seem contradictory, but the scatter above basal age increases mental age and hence is reflected in the quotient thus compensating to some extent for the inferior placement of basal age.

There is a suspicion that the negative correlation with individual reactions bears evidence that scatter measures psychopathy on higher mental levels than Kent-Rosanoff and this possibly contributes to the negative correlation.

The correlation with social index may be produced by the intelligence which succeeded in revealing itself in scatter despite malfunctioning.

5. What is the Character of the Reactions of Each Boy to the Kent-Rosanoff Test?

Ninety-five boys have 10 to 72 individual reactions on the Kent-Rosanoff test. (11 years or more)

Twenty-eight boys scatter 4 years or more and have 10 or more individual reactions on the Kent-Rosanoff test.

The mean social index is 37.42. The average social index for the group of failures is 34 and the average for ~~to~~ successes is 42.

Correlation of Individual Reactions with:

Intelligence Quotient $= -.43 \pm .05$

Mental Age $= -.42 \pm .05$

Binet Scatter $= -.1825 \pm .06$

Judges ratings $= -.43 \pm .05$

The correlation of individual reactions with intelligence quotient, mental age, Binet Scatter, and judges rating is negative in each case, and "markedly present" with all but Binet scatter. There is a strong implication that the malfunctioning it reveals is reflected in the judges rating. Probably in correlation with the other 3 factors, the very malfunctioning measured by individual reactions conditions to some extent the intelligence with which it is correlated. (It is to be remembered that scatter functions in producing mental age.)

Correlation of:

Social index and intelligence quotient $= -.441 \pm .0498$

"	"	"	judges rating	$= -.367 \pm .056$
"	"	"	mental age	$= -.418 \pm .0485$
"	"	"	Binet Scatter	$= -.299 \pm .063$
"	"	"	home rating	$= -.329 \pm .0617$
"	"	"	chronological age	$= -.38 \pm .0483$

Social index shows "marked" correlation with intelligence quotient, judges ratings, mental age, and chronological

age. With home ratings and Binet Scatter correlation is "present but low". One surmises that social index or adaptability is related to intelligence, mental age, and chronological age in a conditioning manner. Judges ratings are but a crude measure of adaptability and the correlation with social index is, hence, significant.

6 & 7. From what Kind of a Home Does Each Boy Come? Neighborhood?

The average home rating is 10.4. The average for the Successes is 11.35, for the failures, it is 10—none of the three scores indicate as much as 50% of the standard dwelling. Location of homes offer many and various "disadvantageous circumstances".

Correlation of Home Ratings with:

Intelligence Quotient = $.334 \pm .06$

Judges ratings = $.245 \pm .06$

Social Index = $.329 \pm .06$

Home ratings has a "present but low" correlation with intelligence quotient, judges ratings, and social index. The correlation with intelligence quotient is higher than that found by Clark(31). Home influence may be reflected in judges ratings and social index.

8. How is Each Boy Rated by Qualified Adults on His Ability to Get Along with People and Make his Own Way?

(31) Clark, Willis W. Home Conditions and Native Intelligence. Journal Del., Jan. 1932.

The median for judges rating is 10.32. The average for the 10 failures rates is 8.6. The average for the Successes is 11.3. The correlation with intelligence is "marked" as it is with social index. With individual reactions the correlation is "marked" but negative.

Correlation of:

Judges ratings and home ratings = $.245 \pm .063$

" " " intelligent quotient = $.432 \pm .0483$

" " " individual reactions = $.7432 \pm .053$

" " " social index = $.367 \pm .0498$

Judges ratings show "marked" correlation with intelligence quotient and social index—"marked" negative correlation with individual reactions, and a "present but low" correlation with home ratings.

The implication that social index and judges rating unconsciously recognize intelligence is interesting. The negative correlation with individual reactions seems to prove that the factor measured by the individual reaction is inimical to high social rating. Judges ratings strongly reflect mental traits.

9. What was the Cause of Commitment of Each Boy?

Causes of commitment were 69 cases neglect, 42 offenses against property, 26 rebellion against place limitation, 5 immorality, 1 cruelty.

10. What is the Physical Condition of Each Boy?

Physical condition shows 72% have diseased tonsils and adenoids, 53% have caries, crowded teeth or pyorrhea, 32% have syphilitic infection by Wasserman test. One-sixth have had scarlet fever and measles. One-sixth have impetigo and scabies or have had them. Eyes were defective in nearly half the group. There were 3 cases of Otitis Media and thirteen cases of throat trouble not described.

11. If Paroled What is His Present Adaptation to Society?

Out of 103 paroles, 40 were successful, 52 unknown, and 13 failures. The average failure has an intelligence quotient of 85, a social index of 34, his home rating is 10, judges rating 8.6, he has two major symptoms of psychopathy, and is very likely syphilitic.

The average success has an intelligence quotient of 92, a social index of 42, his home rating is 11.35, judges rating, 11.3, Binet Scatter is 3.82, individual reactions 14.3, and nearly a 50% chance to be syphilitic.

SUMMARY

The average McCune boy is between 11 and 14 years old. He has an intelligence quotient of 87.1, his mental age lies between 9 and 12, he almost certainly has one of the two major symptoms of psychopathy and he may have both, his social index is 38.07, his home is half way between average and nothing and it is located in a poor neighborhood. The judges rate him at 10.3 in amiability and power to get along. If he

wasn't sent out for neglect, he stole or played truant or ran off, his tonsils are out or ought to be, he ought to have glasses by an even chance, he has a chance to be syphilitic,* he probably has toothache or is suffering from infection from his teeth in some part of his body and every sixth one of him has had serious childhood diseases, impetigo, or scabies.

* Congenital is implied in every reference to syphilis.

TABLE I CORRELATION TABLE OF CHRONOLOGICAL AGE AND
MENTAL AGE

	6	7	8	9	10	11	12	13	14	15	16	fy
Chronological Age 18											1	1
17				.				1		2		3
16				1	1					1	3	6
15			1		1	1	1	2	3			9
14				2	3	1	1	1	2		1	11
13		2	1	2	5	5	3	2		1		21
12	1		1	7	9	8	2	4	1			33
11	2	1	3	6	6	4	1	1			1	25
10		2	6	1	3	2			1			15
9		6		3								9
8		2	1	1								4
7	2	1		1								4
6	1	1										2
fx	6	15	13	24	28	21	8	11	7	4	6	143

$$c_x^2 = .245 \quad \sigma_x^2 = 6.14$$

$$c_x^2 = .06 \quad \sigma_x = 2.478$$

$$c_y^2 = .105 \quad \sigma_y^2 = 5.27$$

$$c_y^2 = .011 \quad \sigma_y = 2.296$$

$$r = \frac{3.68 (.245x - .105)}{2.478 \times 2.296} = .64 \quad r_{P.E.} = \sqrt{\frac{.6745 (1 - .4096)}{11.96}} = .64$$

TABLE 2 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND MENTAL AGE

		Intelligence Quotient																				
		54	59	64	69	74	79	84	89	94	99	104	109	114	119	124	129	134	139	144	149	fy
		50	55	60	65	70	75	80	85	90	95	100	105	110	115	120	125	130	135	140	145	
m	16											4				1					1	6
e	15									2	1				1							4
n	14									3		2					1		1			7
t	13							1	2	1	1	2	2	1	1							11
a	12							2		2	3		1									8
l	11				1	2	1	3	8	1	4	1										21
A	10			3	2	3	7	8	1	2	1	1										28
g	9		1	1	1	3	3	6	3	2	1	1			1	1						24
e	8			1	2	2	5	2				1										13
	7		1	1	3	2		3	2	1		1		1								15
	6	3									2			1								6
fx	3	2	3	9	10	13	22	18	20	11	16	5	3	2	2	1	0	1	0	1	143	

Table 2

$$c_x = .175$$

$$\sigma^2_x = 10.49$$

$$c_y = .217$$

$$\sigma^2_y = 4.38$$

$$c^2_x = .0306$$

$$\sigma_x = 3.24$$

$$c^2_y = .047$$

$$\sigma_y = 2.09$$

$$r = \frac{4.43 - (.175 \times .217)}{3.24 \times 2.09} = .65$$

$$r \pm \text{P.E.} = r \pm \frac{.6745 (1 - .4225)}{11.96} = .65 \pm .0326$$

TABLE 3 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND
BINET SCATTER

Intelligence Quotient

	55-50	62-56	73-62	79-68	85-74	91-80	97-86	103-92	109-98	115-104	121-110	127-116	133-122	139-128	145-134	fy
Binet Scatter	8	7	6	5	4	3	2	1	0	1	2	3	4	5	6	7
8						1	1			1						3
7		1				1										2
6						3	2	3	4	1	1	2			1	17
5				2		2	2				1	1				7
4		1		1	4	5	2	1	4	4		1	1	1	1	25
3		1	2	3	6	3	4	3	3	1	2					28
2	1	1		2	1	5	6	3	4		1					24
1				1	2	1			2							6
fx	1	3	3	8	12	22	18	10	17	6	5	4	1	0	1	112

$$\sigma_x = .1965 \quad \sigma^2_x = 7.05$$

$$\sigma_y = .687 \quad \sigma^2_y = 2.75$$

$$\sigma^2_{x^2} = .0386 \quad \sigma_x = 2.655$$

$$\sigma^2_y = .472 \quad \sigma_y = 1.658$$

$$r = \frac{.973 - (.1965 \times .687)}{2.655 \times 1.658} = .19$$

$$r \pm P.E. = r \pm \frac{.6745 (1 - .0361)}{10.58} = .19 \pm .0613$$

TABLE 4 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND
INDIVIDUAL REACTIONS (11 years and over)

Intelligence Quotient

	50	56	62	68	74	80	86	92	98	110	116	122	128	134	140	F
Indivi- dual v i d u a l R e a c t i o n s	55	61	67	73	79	85	91	97	103	109	115	121	127	133	139	145
72																
64				1												1
63																
55	1															1
54																
46			2													2
45																
37	1						1									2
36																
28		1	1		2	2			1							7
27																
19		1		4	7	5	6	2	1							26
18																
10	1	2	2	4	4	9	12	6	7	3	2	1			1	54
9																
1				1	2	4	7	4	3	2	1	2	1		1	28
fx	3	4	5	10	15	21	25	12	12	5	3	3	1		1	121

$$cx = -.314 \quad \sigma^2x = 8.20 \quad cy = .305 \quad \sigma^2y = 1.50$$

$$cx^2 = .097 \quad \sigma x = 2.564 \quad cy^2 = .093 \quad \sigma y = 1.22$$

$$r = \frac{-1.594 - (-.314 \times .305)}{2.864 \times 1.22} = -.0.43$$

$$\pm P.E. = \pm \frac{.6745 (1 - .185)}{11} = .43 \pm .05$$

TABLE 5 CORRELATION TABLE OF INDIVIDUAL REACTIONS AND
MENTAL AGE

		Individual Reactions															
		4	9	14	19	24	29	34	39	44	49	54	59	64	65	fy	
		0	5	10	15	20	25	30	35	40	45	50	55	60			
M e n t a l A g e	16	1	2	1	2											6	
	15	1	2		1											4	
	14	1	2	1	1		1									6	
	13	2	4	3	2											11	
	12		3	4	1										1	9	
	11		3	9	2	5		1								20	
	10	2	3	6	11	3	1				1	1				28	
	9		2	2	4	3	3	2	1	1					1	19	
	8				3	3	4	1									11
	7				2	1	1	1									5
6			1							1			1			3	
fx	7	21	27	29	15	10	5	1	2	1	1	1	1	0	2	122	

$$cx = .123$$

$$\sigma^2_x = 5.63$$

$$cy = .68$$

$$\sigma^2_y = 5.95$$

$$c^2_x = .015$$

$$\sigma_x = 2.37$$

$$c^2_y = .4624$$

$$\sigma_y = 2.44$$

$$r = \frac{-2.35 - (.123 \times .68)}{2.37 \times 2.44} = -.42$$

$$r \pm P. E. = -r \pm \frac{.6745 (1 - .1764)}{11.05} = -.42 \pm .0502$$

TABLE 6 CORRELATION TABLE OF INDIVIDUAL REACTIONS
AND BINET SCATTER

		Individual Reactions												fx
		1 5	6 10	11 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	
S c a t t e r o n B i n e t	8	3												3
	7						1	1						2
	6	2	10	3	1						1			17
	5			1	4	1					1			7
	4	2	2	6	8	3	3		1					25
	3	1	1	3	10	2	3	3	1	1	2	1		28
S c a l e Y r s.	2	3	5	6	3	1	3	2				1		24
	1		1			3	1		1					6
	fx	8	22	19	26	10	11	6	3	1	4	2		112

$$\sigma x = .16 \quad \sigma^2 x = 5.35 \quad \sigma y = .598 \quad \sigma^2 y = 2.86$$

$$c^2 x = .0256 \quad \sigma x = 2.313 \quad c^2 y = .3576 \quad \sigma y = 1.69$$

$$r = \frac{-.705 - (.16 \times .598)}{2.313 \times 1.69} = -.1825$$

$$r \pm P.E. = \pm \frac{.6745 (1 - .033)}{10.58} = -.1825 \pm .0612$$

TABLE 7 CORRELATION TABLE OF SOCIAL INDEX AND INTELLIGENCE
QUOTIENT (11 years and over)

		Binet Intelligence Quotient										fy
		59 50	69 60	79 70	89 80	99 90	109 100	119 110	129 120	139 130	149 140	
S o c i a l	69				1							1
	65											
	64											0
	60											
I n d e x	59			1	2		1		1			5
	55											
	54				2	2	2	2	1		1	10
	50											
	49	1		2	5	4	4	1				17
	45											
	44				3	11	3					17
	40											
	39		2	4	7	5	1	2		1		22
	35											
	34	1	4	6	7	3						21
	30											
	29		1	5	2	3	2					13
	25											
	24		2	1	3		1					7
	20											
	19	2	1	1	1		1					6
	15											
	14	1	1									2
	10											
	9			1								1
	5											
fx		5	11	21	33	28	15	5	2	1	1	122

Table 7

$$\begin{array}{llll}
 c_x = .276 & \sigma^2_x = 2.68 & c_y = -.115 & \sigma^2_y = 5.60 \\
 c^2_x = .0762 & \sigma_x = 1.637 & c^2_y = .0132 & \sigma_y = 2.366
 \end{array}$$

$$r = \frac{1.68 - (.276 \times -.115)}{1.637 \times 2.366} = .441$$

$$r \pm P.E. = \frac{.6745 (1 - .1945)}{11.04} = .441 \pm .0498$$

TABLE 8 CORRELATION TABLE OF SOCIAL INDEX AND JUDGE'S
RATING (11 years and over)

	Social Index														fy
	9 5	14 10	19 15	24 20	29 25	34 30	39 35	44 40	49 45	54 50	59 55	64 60	69 65		
J															
15							1							1	
u															
14					1		1		1		1		1	5	
d															
13					1	3	2	3	1					10	
g															
12				1	1	2	6	4	3	2	3			22	
e															
11	1	1		2	4	1	2	2	1	4				18	
s															
10				1		3	6	5	2	2				19	
R															
9			1	1	2	1	1		3	1				10	
a															
8			1		2	5			1					9	
t															
7			2		1	2	1		1					7	
i															
6		1	1		1	1			1					5	
n															
5						1								1	
g															
4			1											1	
3															
2															
1															

fx 1 2 6 5 13 19 20 14 14 9 4 0 1 108

cx = -.083 $\sigma^2x = 5.08$ cy = -.657 $\sigma^2y = 5.09$

$\sigma^2x = .0069$ $\sigma x = 2.253$ $\sigma^2y = .432$ $\sigma y = 2.256$

$$r = \frac{1.916 - (-.083 \times -.657)}{2.253 \times 2.256} = .367$$

$$r \pm P.E. = r \pm \frac{.6745 (1 - .1347)}{10.39} = .367 \pm .056$$

TABLE 9 CORRELATION TABLE OF SOCIAL INDEX AND MENTAL AGE
(11 years and over)

		Social Index														
		9	14	19	24	29	34	39	44	49	54	59	64	69		
		5	10	15	20	25	30	35	40	45	50	55	60	65	fy	
M	16				1	1			1		3				6	
e	15								3		1				4	
n	14			1				2	1	1	1	1			7	
t	13						1	3	1	1	2	2		1	11	
a	12						2	2	3	1					8	
l	11			1			4	4	6	4	1				20	
A	10		1		2	3	7	3	2	8		2			28	
g	9	1		2	1	4	3	5	1		2				19	
e	8				3	5	1	2							11	
	7			1			3	1							5	
	6		1	1						1					3	
fx		1	2	6	7	13	21	22	18	16	10	5	0	1	122	

$$\begin{aligned} cx &= -.0164 & \sigma^2 x &= 4.965 & cy &= .697 & \sigma^2 y &= 5.54 \\ \sigma^2 x &= .0003 & \sigma x &= 2.228 & \sigma^2 y &= .4858 & \sigma y &= 2.354 \end{aligned}$$

$$r = \frac{2.19 - (-.0164 \times .697)}{2.228 \times 2.354} = .418$$

$$r \pm P.E. = r \pm \frac{.6745 (1 - .2045)}{11.05} = .418 \pm .0485$$

TABLE 10 CORRELATION TABLE OF SOCIAL INDEX AND BINET
SCATTER

		Social Index											
		5	10	15	20	25	30	35	40	45	50	55	f
		9	14	19	24	29	34	39	44	49	54	59	
Scatter years of	8								1	2			3
	7			1									1
	6						1	2	5	2	4	2	16
	5					1	1	2		1			5
	4				2	5	5	2	1	3	2	1	21
	3			4	2	1	5	6	2	1			21
	2		1			3	3	5	5	5		1	23
	1			1		2	1	1					5
f		1	6	4	12	16	17	15	14	6	4	95	

$$c_x = -.0421$$

$$o^2_x = 4.32$$

$$c_y = .684$$

$$o^2_y = 2.89$$

$$c^2_x = .00167$$

$$o_x = 2.08$$

$$c^2_y = .468$$

$$o_y = 1.7$$

$$r = \frac{1.03 - (-.0421 \times .684)}{2.08 \times 1.7} = .299$$

$$\pm P. E. = r \pm \frac{.6745 (1 - .09)}{9.75} = .299 \pm .063$$

TABLE 11 CORRELATION TABLE OF SOCIAL INDEX AND HOME
RATING (11 years and over)

Home Rating

	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	fy
S	65	1																				1
o	64																					0
c	69																					
i																						
a	59			1	1	1																1 4
l	55																					
I	54				2	1			1			1			1	1						1 7
n	50																					
d																						
e	49		2		2	3		1	1	2	1	1										13
x	45																					
	44	3		1		3			1					1	1							1 11
	40																					
	39	4	3		2	1		1	3		1					1	1					17
	35																					
	34	4	3	3	1	1	1	1	1		1			1		1						18
	30																					
	29	1	2		1	1	1	1	1	2												10
	25																					
	24	2	1	1	1					1	1	1										7
	20																					
	19	1	2	1																		4
	15																					
	14	2																				2
	10																					
	9																					0
	5																					
	4																					0
	0																					
fx	18	3	12	6	9		11	2	3	8	4	5	3	0	2	2	3	1	0	0	0	3 95

Table 11

$$c_x = 1.76$$

$$\sigma^2_x = 24.75$$

$$c_y = -.021$$

$$\sigma^2_y = 4.96$$

$$c^2_x = 3.10$$

$$\sigma_x = 4.97$$

$$c^2_y = .0004$$

$$\sigma_y = 2.23$$

$$r = \frac{3.61 - (1.76 \times -.021)}{4.97 \times 2.23} = .329$$

$$\pm P.E. = \pm \frac{.6745 (1 - .108)}{9.75} = .329 \pm .0617$$

TABLE 12 CORRELATION TABLE OF SOCIAL INDEX AND
CHRONOLOGICAL AGE

Social Index

	9	14	19	24	29	34	39	44	49	54	59	64	69	fy
	5	10	15	20	25	30	35	40	45	50	55	60	65	
C 19														0
h 18								1						1
o 17								2			1			3
n 16		1		1	1	1		1		1				6
o 15					1	3	2	1		1			1	9
g 14			1		1	2		1	4	2				11
i 13			1	1	2	5	3	2	4	1	2			21
a 12	1		1	3	1	4	8	5	4	4	2			33
l 11		1	3	1	5	3	5	4	2	1				25
				1	2	4	5		3					15
		1	2	4	2									9
				3	1									4
			1		1		2							4
			1		1									2
fx	1	4	9	15	17	22	25	17	17	10	5	0	1	143

$$cx = -.377$$

$$\sigma^2x = 4.73$$

$$cy = -.105$$

$$\sigma^2y = 5.27$$

$$\sigma^2x = .142$$

$$\sigma x = 2.175$$

$$\sigma^2y = .011$$

$$\sigma y = 2.296$$

$$r = \frac{1.87 - (-.377 \times -.105)}{2.175 \times 2.296} = .381$$

$$r \pm P.E. = r \pm \frac{.6745 (1 - .145)}{11.96} = .381 \pm .0483$$

TABLE 13 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND HOME
RATING

	Home Rating																									fy
I n149.9	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25				1	1
t 140																										
e 1139.9					1																					1
l 130																										
i g129.9					2																					2
e 120																										
n c119.9									1	1	1					1										4
e 110																										
o109.9		2		5	3			1		2	1						1	1							1	17
u 100																										
o t99.9	5			1	1	5	1	1	2	1	1	1					1	1								21
i 90																										
e n89.9	6	2	8	1			1		3	4	3	1	1		1										1	32
t 80																										
79.9	1	1	3	3	1	2	1		1		1						1									15
70																										
69.9	5	1	1	1	1							1				1										11
60	2	1																								
59.9	2	1																								3
50																										
fx19	5	14	6	11	11	2	6	8	7	4	3	0	2	3	2	1										3 107

$$c_y = 1.41 \quad \sigma_y^2 = 23.60 \quad c_x = 3.74 \quad \sigma_x^2 = 2.70$$

$$c^2_y = 1.96 \quad \sigma_y = 4.85 \quad c^2_x = .14 \quad \sigma_x = 1.64$$

$$r = \frac{3.28 - (1.41 \times .374)}{4.85 \times 1.64} = .334$$

$$Y \pm P.E. = r \pm \frac{.6745 (1 - .112)}{10.34} = .334 \pm .058$$

TABLE 14 CORRELATION TABLE OF JUDGE'S RATING AND

HOME RATING

Intelligence Quotient

		Judge's Rating															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	fy
	25						1	1			2		1				3
H	24							1		1							0
	23																
o	22																
m	21				1										1		1
	20																
e	20										2	1					8
19																	
R	19																
	18							1				1					2
a	17																
	16						1	1	1		2	1		1			7
t	15																
1	14										2	1	6	1	2		12
n	13																
	12																
8	12																
	11									1	2	1	1	1	1	1	8
	10						1		3	4	1	4	5	4	1		23
	9																
	8			1				1	3	3	4	3	1	3	1	1	21
	7																
	6				2	1	3	1	3	2	3	2	2		1	1	21
	5																

fx 1 2 1 5 4 10 10 18 14 16 10 7 3 101

cx = -.327 c²x = 6.59 cy = .425 c²y = 5.35

c²x = .107 ox = 2.567 c²y = .1806 oy = 2.313

$$r = \frac{1.316 - (-.327 \times .425)}{2.567 \times 2.313} = .245$$

$$r \pm P.E. = r \pm \frac{.6745 (1 - .06)}{10.05} = .245 \pm .063$$

TABLE 15 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND
JUDGE'S RATING

		Intelligence Quotient										
		46- 55	56- 65	66- 75	76- 85	86- 95	96- 105	106- 115	116- 125	126- 135	136- 145	fy
J	15					1	1	1				3
u												
d	14			2		2	1	1	1			7
g												
e	13			2	3	4	3	1				13
s												
	12			3	1	7	9	2	2			24
R												
a	11			4	3	8	3		1			19
t												
i	10			3	10	4	4				1	22
n												
g	9		1	1	7	2			1			12
	8			6	1	2	2					11
	7	1	2	3	1							7
	6	1	1		2	1	1					6
	5				1				1			2
	4	1			1							2
	3							1				1
	2											
	1											
fx		3	4	24	30	31	24	6	6	0	1	129
ox		-.33										
o ² x												2.50
cy												
o ² y												6.41
c ² x												
ox												1.58
c ² y												
oy												2.53

$$r = \frac{1.542 - (-.33 \times .558)}{1.58 \times 2.53} = .432$$

$$t \pm P E = r \pm \frac{.6745 (1 - .1866)}{11.36} = .432 \pm .0483$$

TABLE 16 CORRELATION TABLE OF JUDGE'S RATING AND
INDIVIDUAL REACTIONS (11 years and over)

		Judge's Rating																
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	fy	
I	69.9											1					1	
n	65																	
d	64.9																0	
	60																	
i	59.9						1										1	
v	55																	
i	54.9											1					1	
	50																	
d	49.9											1					1	
	45																	
u	44.9				1						1						2	
a	40									1								
l	39.9																1	
	35																	
R	34.9							1	2	1		1					5	
e	30																	
a	29.9					1	1	1	1	1	1	2	1				9	
	25																	
c	24.9						1	1	1	1	2	4	2	2			14	
t	20																	
i	19.9						1	3	4	4	4	2	6	4	1		29	
	15																	
o	14.9						1	1	1		8	2	5	2	1		21	
n	10																	
B	9.9									2	3	3	4	2	1	1	16	
	5																	
	4.9												4		2		6	
	0																	
fx					1	1	5	7	9	10	19	17	22	10	5	1	107	

Table 16

$$\sigma x = -.663 \quad \sigma^2 x = 4.75 \quad \sigma y = .196 \quad \sigma^2 y = 5.09$$

$$\sigma^2 x^2 = .436 \quad \sigma s = 2.18 \quad \sigma^2 y = .0384 \quad \sigma y = 2.256$$

$$r = \frac{-1.98 - (-.663 \times .196)}{2.18 \times 2.256} = -.43$$

$$r \pm P.E. = \frac{.6745 (1 - .1849)}{10.34} = -.43 \pm .053$$

TABLE 17 CORRELATION TABLE OF INTELLIGENCE QUOTIENT AND CHRONOLOGICAL AGE

Intelligence Quotient

	54	59	64	69	74	79	84	89	94	99	104	109	114	119	124	129	134	139	144	fy	
C	18										1									1	
h	17						1		1	1										3	
r	16		1		1				1		3									6	
o	15			1	1	1	1	2	3											9	
n	14		1		1	3	2		1		2					1				11	
o	13		1	2	1	3	1	4	1	4	2	1			1					21	
l	12	1			2	2	3	6	5	6	3	1	2	1			1			33	
o	11	1		1	1	1	2	3	6	1	2	3	2		1				1	25	
g	10			2	1	3	2	1	1	1	2	1						1		15	
i	9					1		2	3	1	1	1								9	
c	8							1				1				1				3	
a	7										2	1			1			1		5	
l	6												2							2	
A	fx	2	2	4	8	10	13	22	18	19	12	16	5	3	3	2	1	1	1	1	143
G																					
E																					

Table 17

$$c_x = .28$$

$$\sigma^2_x = 10.68$$

$$c_x = -.084$$

$$\sigma^2_y = 5.34$$

$$c^2_x = .0784$$

$$\sigma_x = 3.27$$

$$c^2 = .00706 \quad \sigma_y = 2.31$$

$$r = \frac{-1.715 - (.28 \times -.08)}{3.27 \times 2.31} = -.237$$

$$r \pm P.E. = r \pm \frac{.6745 (1-.056)}{11.96} = -.237 \pm .0533$$

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RECORD BOOKLET

For The Stanford Revision of the Binet-Simon Tests as described in
Terman's *The Measurement of Intelligence*.

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No..... Series..... Date..... Examiner.....
Name..... Age..... M. Age..... I Q.
Date of birth..... Place of birth.....
School now attended..... Grade.....
Parent..... Occupation of father.....
Address.....

NOTES ON EXAMINATION

Time begun....., finished....., time req.....

SUMMARY

YRS. MOS.

3.	.....
4.	.....
5.	.....
6.	.....
7.	.....
8.	.....
9.	.....
10.	.....
12.	.....
14.	.....
16.	.....
18.	.....
Total.	.....

SPECIAL INFORMATION

Standing height..... Sitting height..... Weight..... Head cir.....
Right grip..... Left grip..... Lung capacity.....
Physical defects

Disease history.....

Age of walking..... Talking.....

Social status: Very inferior, inferior, average, superior, very superior.

Years attended school..... Grades repeated..... Skipped.....

School success: Very inferior, inferior, average, superior, very superior.

Teacher's est. of I: Very inferior, inferior, average, superior, very superior.

Miscellaneous.....

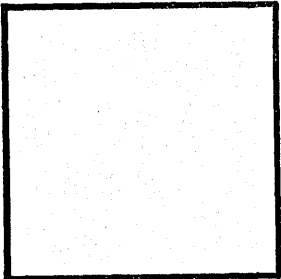
Probable limit of development.....

YEAR III. (6 tests, 2 months each, or 4 tests, 3 months each.)

- *1. Points to parts of body. (3 of 4.)
 Nose..... Eyes..... Mouth..... Hair.....
- *2. Names familiar objects. (3 of 5.)
 Key..... Penny..... Closed knife..... Watch..... Pencil.....
- *3. Pictures, enumeration or better. (At least 3 objects in one picture. "Tell me everything you can see in this picture.")
 a. Dutch Home.....
 b. Canoe.....
 c. Post Office.....
4. Gives sex. (Note form of question.).....
5. Gives last name.....
- *6. Repeats 6-7 syllables. (1 of 3.)
 a. "I have a little dog."
 b. "The dog runs after the cat."
 c. "In summer the sun is hot."
- Al. Repeats 3 digits. (1 of 3. Order correct. Read 1 per second.)
 6-4-1..... 3-5-2..... 8-3-7.....

YEAR IV. (6 tests, 2 months each, or 4 tests, 3 months each.)

- *1. Compares lines. (3 of 3, or 5 of 6.) 1.....2.....3.....
2. Discrimination of forms. (Kuhlmann. 7 of 10.)
 Circle..... Square..... Triangle..... Other errors.....
- *3. Counts 4 pennies. (No error.).....
- *4. Copies square. (Pencil. 1 of 3. Score leniently.) 1.....2.....3.....
- *5. Comprehension, 1st degree. (2 of 3.) "What must you do:
 a. "When you are sleepy?.....
 b. "When you are cold?.....
 c. "When you are hungry?.....
6. Repeats 4 digits. (1 of 3. Order correct. Read 1 per second.)
 4-7-3-9..... 2-8-5-4..... 7-2-6-1.....
- Al. Repeats 12-13 syllables. (1 of 3 absolutely correct, or 2 with 1 error each.)
 a. "The boy's name is John. He is a very good boy."
 b. "When the train passes you will hear the whistle blow."
 c. "We are going to have a good time in the country."



NOTE. — The tests marked with a * constitute an abbreviated scale, for use in case there is not time to give a complete test. These have been selected on the basis of reliability, rapidity with which they may be given, and for variety. If only the tests of the abbreviated scale are given they should be weighted as follows:—years III to X, 3 months for each test; Year XII, 4 months each; Year XIV, 6 months each; average adult, 7½ months each; superior adult, 9 months each.

YEAR V. (6 tests, 2 months each, or 4 tests, 3 months each.)

- *1. Comparison of weights. (2 of 3. E. may illustrate procedure.)
 3-15..... 15-3..... 3-15.....
- *2. Colors. (No error.)
 Red..... Yellow..... Blue..... Green.....
- *3. Aesthetic comparison. (No error.)
 Upper pair..... Middle..... Lower.....
4. Definitions, use or better. (4 of 6.)
 Chair..... Doll.....
 Horse..... Pencil.....
 Fork..... Table.....
5. Patience, or divided rectangle. (2 of 3 trials. 1 minute each.)
 1..... Time.....
 2..... Time.....
 3..... Time.....
- *6. Three commissions. (No error. Order correct.)
 Puts key on chair.....Shuts door.....Brings box.....
- Al. Age.....

YEAR VI. (6 tests, 2 months each, or 4 tests, 3 months each.)

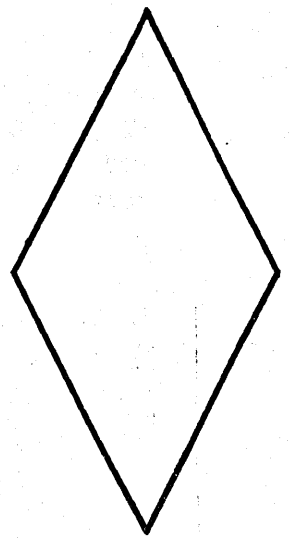
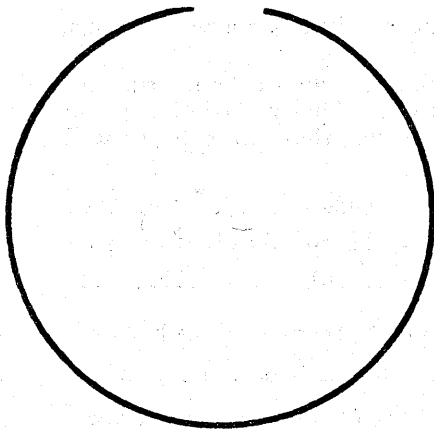
- *1. Right and left. (3 of 3, or 5 of 6.)
 R. hand.....L. ear.....R. eye.....
- *2. Mutilated pictures. (3 of 4.)
 Eye.....Mouth.....Nose.....Arms.....
- *3. Counts 13 pennies. (1 of 2 trials, without error.).....
- *4. Comprehension, 2d degree. (2 of 3.) "What's the thing to do:
 a. "If it is raining when you start to school?.....
 b. "If you find that your house is on fire?.....
 c. "If you are going some place and miss your car?".....
5. Coins. (3 of 4. Present in order given below.)
 Nickel..... Penny..... Quarter..... Dime.....
6. Repeats 16-18 syllables. (1 of 3 absolutely correct, or 2 with 1 error each.)
 a. "We are having a fine time. We found a little mouse in the trap."
 b. "Walter had a fine time on his vacation. He went fishing every day."
 c. "We will go out for a long walk. Please give me my pretty straw hat."
- Al. Morning or afternoon. (Note form of question.).....

YEAR VII. (6 tests, 2 months each, or 4 tests, 3 months each.)

- *1. Fingers. (No error.) R..... L..... Both.....
- *2. Pictures, description or better. (Over half of performance description. "Tell me what this picture is about?" "What is this a picture of?")
 - a. Dutch Home.....
 - b. Canoe.....
 - c. Post Office.....
- 3. Repeats 5 digits. (1 of 3. Order correct. Read 1 per second.)
 - 3-1-7-5-9..... 4-2-8-3-5..... 9-8-1-7-6.....
- 4. Ties bow knot. (Model shown. 1 minute. "Single" bow half credit.)
 - Time..... Method.....
- *5. Gives differences. (2 of 3.)
 - a. Fly and butterfly.....
 - b. Stone and egg.....
 - c. Wood and glass.....
- *6. Copies diamond. (Pen. 2 of 3.) a..... b..... c.....
- Al. 1. Names days of week. (Order correct. 2 of 3 checks correct.)
 - Mon., Tues., Wed., Thurs., Fri., Sat., Sun.
- Al. 2. Repeats 3 digits backwards. (1 of 3. Read 1 per second.)
 - 2-8-3..... 4-2-7..... 9-5-8.....

YEAR VIII. (6 tests, 2 months each, or 4 tests, 3 months each.)

- 1. Ball and field. (Inferior plan or better.).....
- *2. Counts 20-0. (40 seconds. 1 error allowed.) Time..... Errors.....
- *3. Comprehension, 3rd degree. (2 of 3.) "What's the thing for you to do:
 - a. "When you have broken something which belongs to someone else?....
 -
 - b. "When you are on your way to school and notice that you are in danger of being late?.....
 - c. "If a playmate hits you without meaning to do it?".....
- *4. Gives similarities, two things. (2 of 4. "In what way are wood and coal alike?" etc. Any real likeness is plus.)
 - a. Wood and coal.....
 - b. Apple and peach.....
 - c. Iron and silver.....
 - d. Ship and automobile.....
- 5. Definitions superior to use. (2 of 4. "Thing" as genus counts plus.)
 - a. Balloon.....
 - b. Tiger.....
 - c. Football.....
 - d. Soldier.....
- *6. Vocabulary, 20 words. Score..... Total Vocab.....
- Al. 1. Six coins. (No error. Give in order indicated.)
 - .05..... .01..... .25..... .10..... 1.00..... .50.....
- Al. 2. Dictation. ("See the little boy." Easily legible. Pen, 1 minute.)
 - Time..... Score by Ayres scale.....



"Let us suppose that your baseball has been lost in this round field. You have no idea what part of the field it is in. You don't know what direction it came from, how it got there, or with what force it came. All you know is that the ball is lost somewhere in the field. Now take this pencil and mark out a path to show me how you would hunt for the ball so as to be sure not to miss it. Begin at the gate and show me what path you would take."

YEAR IX. (6 tests, 2 months each, or 4 tests, 3 months each.)

- *1. Date. (Allow error of 3 days in *c*, no error in *a*, *b*, or *d*.)
a. Day of week. *b*. month. *c*. day of m. *d*. year.
- *2. Weights. (3, 6, 9, 12, 15. Procedure not illustrated. 2 of 3 correct.)
a. Method.
b. Method.
c. Method.
3. Makes change. (2 of 3. No coins, paper, or pencil.)
10-4. 15-12. 25-4
- *4. Repeats 4 digits backwards. (1 of 3. Read 1 per second.)
6-5-2-8. 4-9-3-7. 8-6-2-9
- *5. Three words. (2 of 3. Oral. 1 sentence or not over 2 coördinate clauses. E. must not illustrate what a sentence is.)
a. Boy, river, ball.
b. Work, money, men.
c. Desert, rivers, lakes.
6. Rhymes. (3 rhymes for each word. 1 minute for each part. Illustrate with hat, rat, cat. 2 of 3 correct.)
a. Day. Time.
b. Mill. Time.
c. Spring. Time.
- Al. 1. Months. (15 seconds and 1 error in naming. 2 checks of 3 correct.)
Jan., Feb., Mch., Apr., May, June, July, Aug., Sept., Oct., Nov., Dec.
- Al. 2. Stamps, gives total value. (2d trial if individual values are known.)

New York, September 5th.—A fire last night burned three houses near the center of the city. It took some time to put it out. The loss was fifty thousand dollars, and seventeen families lost their homes. In saving a girl who was asleep in bed a fireman was burned on the hands.

YEAR X. (6 tests, 2 months each, or 4 tests, 3 months each.)

*1. Vocabulary, 30 words. Score..... Total Vocab.....

*2. Absurdities. (4 of 5. Warn. Spontaneous correction allowed.)

- a. "A man said: 'I know a road from my house to the city which is down hill all the way to the city and down hill all the way back home.'"
- b. "An engineer said that the more cars he had on his train the faster he could go."
- c. "Yesterday the police found the body of a girl cut into 18 pieces. They believe that she killed herself."
- d. "There was a railroad accident yesterday, but it was not very serious. Only 48 people were killed."
- e. "A bicycle rider, being thrown from his bicycle in an accident, struck his head against a stone and was instantly killed. They picked him up and carried him to the hospital, and they do not think he will get well again."

3. Designs. (1 correct, 1 half correct. Expose 10 seconds.) a..... b.....

4. Reading and report. (8 memories. 35 seconds and 2 mistakes in reading.)

Memories..... Time for reading..... Mistakes.....

New York. | September 5th. | — A fire | last night | burned | three houses |
near the center | of the city. | It took some time | to put it out. | The loss |
was fifty thousand dollars, | and seventeen families | lost their homes. | In saving |
a girl | who was asleep | in bed, | a fireman | was burned | on the hands.

*5. Comprehension, 4th degree. (2 of 3. Question may be repeated.)

- a. "What ought you to say when someone asks your opinion about a person you don't know very well?"
- b. "What ought you to do before undertaking (beginning) something very important?"
- c. "Why should we judge a person more by his actions than by his words?"

*6. 60 words. (Score half-minutes separately. Illustrate with clouds, dog, chair, happy.) 1.....2.....3.....4.....5.....6.....

Method.....

Al. 1. Repeats 6 digits. (1 of 2. Order correct. Read 1 per second.)

3-7-4-8-5-9.....5-2-1-7-4-6.....

Al. 2. Repeats 20-22 syllables. (1 of 3 correct, or 2 with 1 error each.)

- a. "The apple tree makes a cool pleasant shade on the ground where the children are playing."
- b. "It is nearly half-past one o'clock; the house is very quiet and the cat has gone to sleep."
- c. "In summer the days are very warm and fine; in winter it snows and I am cold."

Al. 3. Form board. (Healy-Fernald Puzzle A. 3 times in 5 minutes.)

Time: a.....b.....c..... Method.....

A DEFENDS DOG GOOD HIS BRAVELY MASTER

TO ASKED PAPER MY TEACHER CORRECT I MY

FOR THE STARTED AN WE COUNTRY EARLY AT HOUR

YEAR XII. (8 tests, 3 months each, or 6 tests, 4 months each.)

- *1. Vocabulary, 40 words. Score..... Total Vocab.....
- 2. Abstract words. (3 of 5.)
 - a. Pity.....
 - b. Revenge.....
 - c. Charity.....
 - d. Envy.....
 - e. Justice.....
- 3. Ball and field. (Superior plan.).....
- *4. Dissected sentences. (2 of 3. 1 minute each.)
 - a. Time.....
 - b. Time.....
 - c. Time.....
- *5. Fables. (Score 4, *i. e.*, two correct or the equivalent in half credits.)
 - a. Hercules and wagoner.....
 - b. Maid and eggs.....
 - c. Fox and crow.....
 - d. Farmer and stork.....
 - e. Miller, son and donkey.....
- *6. Repeats 5 digits backwards. (1 of 3. Read 1 per second.)
 - 3-1-8-7-9..... 6-9-4-8-2..... 5-2-9-6-1.....
- *7. Pictures, interpretation. (3 of 4. "Explain this picture.")
 - a. Dutch Home.....
 - b. Canoe.....
 - c. Post Office.....
 - d. Colonial Home.....
- *8. Gives similarities, three things. (3 of 5. "In what way are —, —, —, alike?")
 - a. Snake, cow, sparrow.....
 - b. Book, teacher, newspaper.....
 - c. Wool, cotton, leather.....
 - d. Knife-blade, penny, piece of wire.....
 - e. Rose, potato, tree.....

At 15 cents a yard, how much will 7 feet of cloth cost?

If 2 pencils cost 5 cents, how many pencils can you buy for 50 cents?

If a man's salary is \$20 a week and he spends \$14 a week, how long will it take him to save \$300?

YEAR XIV. (6 tests, 4 months each, or 4 tests, 6 months each.)

- *1. Vocabulary, 50 words. Score..... Total Vocab.....
- 2. Induction test. (Gets rule by 6th folding. Unfold after each cutting.)
 1.....2.....3.....4.....5.....6..... Rule.....
- *3. President and king. (Power..... accession..... tenure..... 2 of 3.)
 a.
 b.
 c.
- *4. Problems of fact. (2 of 3. Query on *a* and *b*.)
 a. "A man who was walking in the woods near a city stopped suddenly, very much frightened, and then ran to the nearest policeman, saying that he had just seen hanging from the limb of a tree a——a what?"

 b. "My neighbor has been having queer visitors. First a doctor came to his house, then a lawyer, then a minister (preacher or priest). What do you think happened there?"

 c. "An Indian who had come to town for the first time in his life saw a white man riding along the street. As the white man rode by the Indian said — 'The white man is lazy; *he walks sitting down*.' What was the white man riding on that caused the Indian to say 'he walks sitting down'?"

- *5. Arithmetical reasoning. (1 minute each. 2 of 3.)
 a. Save \$300..... Time.....
 b. Pencils..... Time.....
 c. Cloth..... Time.....
- 6. Clock. (2 of 3. Error must not exceed 3 or 4 minutes.)
 6:22..... Time required.....
 8:08..... Time required.....
 2:46..... Time required.....
- A1. Repeats 7 digits. (1 of 2. Order correct. Read 1 per second.)
 2-1-8-3-4-3-9..... 9-7-2-8-4-7-5.....

YEAR XVI, AVERAGE ADULT. (6 tests, 5 months each, or 4 tests,
7½ months each.)

- *1. Vocabulary, 65 words. Score..... Total Vocab.....
- *2. Interpretation of fables. (Score 8.) (First explain what a fable is, and after reading each say, "What lesson does that teach us?")
 - a. Hercules and wagoner.....
 - b. Maid and eggs.....
 - c. Fox and crow.....
 - d. Farmer and stork.....
 - e. Miller, son and donkey.....
- 3. Difference between abstract words. (3 real contrasts out of 4.)
 - a. Laziness and idleness.....
 - b. Evolution and revolution.....
 - c. Poverty and misery.....
 - d. Character and reputation.....
- *4. Problem of the enclosed boxes. (3 of 4.) One large box containing:
 - a. 2 smaller, 1 inside of each.....
 - b. 2 smaller, 2 inside of each.....
 - c. 3 smaller, 3 inside of each.....
 - d. 4 smaller, 4 inside of each.....
- *5. Repeats 6 digits backwards. (1 of 3.)

4-7-1-9-5-2..... 5-8-3-2-9-4..... 7-5-2-6-3-8.....
- 6. Code, writes "Come quickly." (2 errors. 6 minutes. Omission of dot counts half error. Illustrate with "war" and "spy.")

Errors..... C-O-M-E Q-U-I-C-K-L-Y..... Time.....

Method.....
- Al. 1. Repeats 28 syllables. (1 of 2 absolutely correct.)
 - a. Walter likes very much to go on visits to his grandmother, because she always tells him many funny stories.
 - b. Yesterday I saw a pretty little dog in the street. It had curly brown hair, short legs, and a long tail.
- Al. 2. Comprehension of physical relations. (2 of 3.)
 - a. Path of cannon ball.....
 - b. Weight of fish in water.....
 - c. Hitting distant mark.....

XVIII, SUPERIOR ADULT. (6 tests, 6 months each, or 4 tests, 9 months each.)

- *1. Vocabulary, 75 words. Score..... Total Vocab.....
2. Binet's paper cutting test. Draws folds and locates holes. (If given, must come before XIV₂.)
- *3. Repeats 8 digits. (I of 3. Order correct. Read I per second.)
7-2-5-3-4-8-9-6..... 4-9-8-5-3-7-6-2..... 8-3-7-9-5-4-8-2.....
- *4. Repeats thought of passage heard. (I of 2. E. reads each in about $\frac{1}{2}$ min.)

"I am going to read a little selection of about six or eight lines. When I am through I will ask you to repeat as much of it as you can. It does n't make any difference whether you remember the exact words or not, but you must listen carefully so that you can tell me everything it says."

a. "Tests such as we are now making are of value both for the advancement of science and for the information of the person who is tested. It is important for science to learn how people differ and on what factors these differences depend. If we can separate the influence of heredity from the influence of environment we may be able to apply our knowledge so as to guide human development. We may thus in some cases correct defects and develop abilities which we might otherwise neglect."

b. "Many opinions have been given on the value of life. Some call it good, others call it bad. It would be nearer correct to say that it is mediocre, for on the one hand our happiness is never as great as we should like, and on the other hand our misfortunes are never as great as our enemies would wish for us. It is this mediocrity of life which prevents it from being radically unjust."
- *5. Repeats 7 digits backwards. (I of 3.)
4-1-6-2-5-9-3..... 3-8-2-6-4-7-5..... 9-4-5-2-8-3-7.....
6. Ingenuity test. (2 of 3. 5 minutes each. If S fails on 1st, E explains that one.)

a. "A mother sent her boy to the river to get seven pints of water. She gave him a 3-pint vessel and a 5-pint vessel. Show me how the boy can measure out exactly 7 pints without guessing at the amount. Begin by filling the 5-pint vessel."

b. Same, except 5 and 7 given to get 8. ("Begin with 5.")

c. Same, except 4 and 9 given to get 7. ("Begin with 4.")

"Fables, you know, are little stories which teach us a lesson. Now I am going to read a fable to you. Listen carefully and when I am through I will ask you to tell what lesson the fable teaches us."

After reading each fable say, "What lesson does that teach us?" Ask also if fable has been heard before.

A. HERCULES AND THE WAGONER

A man was driving along a country road, when the wheels suddenly sank in a deep rut. The man did nothing but look at the wagon and call loudly to Hercules to come and help him. Hercules came up, looked at the man, and said: "Put your shoulder to the wheel, my man, and whip up your oxen." Then he went away and left the driver.

Lesson.....
.....
.....

B. THE MILKMAID AND HER PLANS

A milkmaid was carrying her pail of milk on her head, and was thinking to herself thus: "The money for this milk will buy 4 hens; the hens will lay at least 100 eggs; the eggs will produce at least 75 chicks; and with the money which the chicks will bring I can buy a new dress to wear instead of the ragged one I have on." At this moment she looked down at herself, trying to think how she would look in her new dress; but as she did so the pail of milk slipped from her head and dashed upon the ground. Thus all her imaginary schemes perished in a moment.

Lesson.....
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.....

C. THE FOX AND THE CROW

A crow, having stolen a bit of meat, perched in a tree and held it in her beak. A fox, seeing her, wished to secure the meat, and spoke to the crow thus: "How handsome you are! and I have heard that the beauty of your voice is equal to that of your form and feathers. Will you not sing for me, so that I may judge whether this is true?" The crow was so pleased that she opened her mouth to sing and dropped the meat, which the fox immediately ate.

Lesson.....
.....
.....

D. THE FARMER AND THE STORK

A farmer set some traps to catch cranes which had been eating his seed. With them he caught a stork. The stork, which had not really been stealing, begged the farmer to spare his life, saying that he was a bird of excellent character, that he was not at all like the cranes, and that the farmer should have pity on him. But the farmer said: "I have caught you with these robbers, the cranes, and you have got to die with them."

Lesson.....
.....
.....

E. THE MILLER, HIS SON, AND THE DONKEY

A miller and his son were driving their donkey to a neighboring town to sell him. They had not gone far when a child saw them and cried out: "What fools those fellows are to be trudging along on foot when one of them might be riding." The old man, hearing this, made his son get on the donkey, while he himself walked. Soon they came upon some men. "Look," said one of them, "see that lazy boy riding while his old father has to walk." On hearing this the miller made his son get off, and he climbed upon the donkey himself. Farther on they met a company of women, who shouted out: "Why, you lazy old fellow, to ride along so comfortably while your poor boy there can hardly keep pace by the side of you!" And so the good-natured miller took his boy up behind him and both of them rode. As they came to the town a citizen said to them, "Why, you cruel fellows! you two are better able to carry the poor little donkey than he is to carry you." "Very well," said the miller, "we will try." So both of them jumped to the ground, got some ropes, tied the donkey's legs to a pole and tried to carry him. But as they crossed the bridge the donkey became frightened, kicked loose and fell into the stream.

Lesson.....
.....
.....

VOCABULARY — Score.....

Time begun.....	Time finished.....	Time required.....
1. gown.....		1. orange.....
2. tap.....		2. bonfire.....
3. scorch.....		3. straw.....
4. puddle.....		4. roar.....
5. envelope.....		5. haste.....
6. rule.....		6. afloat.....
7. health.....		7. guitar.....
8. eye-lash.....		8. mellow.....
9. copper.....		9. impolite.....
10. curse.....		10. plumbing.....
11. pork.....		11. noticeable.....
12. outward.....		12. muzzle.....
13. southern.....		13. quake.....
14. lecture.....		14. reception.....
15. dungeon.....		15. majesty.....
16. skill.....		16. treasury.....
17. ramble.....		17. misuse.....
18. civil.....		18. crunch.....
19. insure.....		19. forfeit.....
20. nerve.....		20. sportive.....
21. juggler.....		21. apish.....
22. regard.....		22. snip.....
23. stave.....		23. shrewd.....
24. brunette.....		24. repose.....
25. hysterics.....		25. peculiarity.....
26. Mars.....		26. conscientious.....
27. mosaic.....		27. charter.....
28. bewail.....		28. coinage.....
29. priceless.....		29. dilapidated.....
30. disproportionate.....		30. promontory.....
31. tolerate.....		31. avarice.....
32. artless.....		32. gelatinous.....
33. depredation.....		33. drabble.....
34. lotus.....		34. philanthropy.....
35. frustrate.....		35. irony.....
36. harpy.....		36. embody.....
37. flaunt.....		37. swaddle.....
38. ochre.....		38. exaltation.....
39. milksop.....		39. infuse.....
40. incrustation.....		40. selectman.....
41. retroactive.....		41. declivity.....
42. ambergris.....		42. laity.....
43. achromatic.....		43. fen.....
44. perfunctory.....		44. sapient.....
45. casuistry.....		45. cameo.....
46. piscatorial.....		46. theosophy.....
47. sudorific.....		47. precipitancy.....
48. pârterre.....		48. paleology.....
49. shagreen.....		49. homunculus.....
50. complot.....		50. limpet.....

NOTE: To get the entire vocabulary, multiply the number of correct definitions by 180, if both lists are given; if only the first list is given, multiply by 360. If only one list is given, multiply the number of correct definitions by 2 to get the score.

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PRINTED IN THE U.S.A.

No.

IN THE JUVENILE COURT

AT

KANSAS CITY

STATE OF MISSOURI

Plaintiff,

VS.

Defendant.

COMMITMENT

DIRECTED TO

COMMITMENT

THE STATE OF MISSOURI, }
COUNTY OF JACKSON, } ss.

To.....

....., Greeting:

WHEREAS, by the Judgment of the Juvenile Court of Jackson County, Missouri, at
Kansas City, made on the.....day of....., 19.....,
....., adjudged to be a.....child,
was awarded to your custody and control, subject to the orders of this Court.

THESE ARE THEREFORE TO AUTHORIZE YOU to take charge of and properly
care for said child until the further order of the Court.

Witness, W. H. HARPER, Clerk of the Circuit Court of Jackson County, Mis-
souri, and ex-officio Clerk of the Juvenile Court of said County, with the
seal of said Circuit Court affixed hereto, at office in Kansas City, this
.....day of....., 19.....

W. H. HARPER, Clerk.

By.....Deputy.

FAMILY HISTORY

Father's Name.....
Occupation.....
Mother's Name.....
Occupation.....
No. in Family.....
Total Income.....
Father Dead..... Mother Dead.....
Parents Separated.....
Parents Divorced.....
Lives with.....
Step-father..... Step-mother.....
Remarks.....
.....
.....
.....
.....

HOME CONDITIONS

Type of Dwelling.....
No. of Rooms.....
Rent Paid.....
No. of Persons Living There.....
Sanitary Conditions.....
Boarders.....

INDIVIDUAL RECORD

Name of School.....
Grade.....
Attendance.....
Conduct.....
Name of Employer.....
Address.....
Kind of Work.....
Wages.....

HISTORY CONTINUED

No.

Name Age

Address Next Birthday

Date Reported Reported by

Charge	Nationality	{	Girl	Negro
			Boy	White

History .

Card II

No.....

Name of family No. in family

No. of boys living.... dead.... No. of girls living.... dead....

Age of mother at birth of child..... ,Age of father, etc....

Father's work Mother's work

Age of child at first delinquency Child's bedtime

Child's contribution to family—work or money.....

.....

Child's number in family sequence

Books

Regular attendance at church or S. S..... Religion.....

Reading habits

Education of parents.....

Nationality

THE KENT-ROSANOFF ASSOCIATION TEST.

Name

No.

Age

Race

Sex

Mental Age

Retardation

Time of reactions: mode=

Average deviation=

Number of times exceeding mode plus A. D.=

General conclusions

Test made by

Date

Hour

Conditions of Test

THE UNIVERSITY of KANSAS
FIELD RECORD FOR THE SCHOOL OF EDUCATION

THE KENT-ROSANOFF ASSOCIATION TEST

STIMULUS	REACTION	T.	FR.	CL.	STIMULUS	REACTION	T.	FR.	CL.
1. Table			50		51. Stem				
2. Dark					52. Lamp				
3. Music					53. Dream				
4. Sickness					54. Yellow				
5. Man					55. Bread				
6. Deep					56. Justice				
7. Soft					57. Boy				
8. Eating					58. Light				
9. Mountain					59. Health				
10. House					60. Bible				
11. Black					61. Memory				
12. Mutton					62. Sheep				
13. Comfort					63. Bath				
14. Hand					64. Cottage				
15. Short					65. Swift				
16. Fruit					66. Blue				
17. Butterfly					67. Hungry				
18. Smooth					68. Priest				
19. Command					69. Ocean				
20. Chair					70. Head				
21. Sweet					71. Stove				
22. Whistle					72. Long				
23. Woman					73. Religion				
24. Cold					74. Whiskey				
25. Slow					75. Child				
26. Wish					76. Bitter				
27. River					77. Hammer				
28. White					78. Thirsty				
29. Beautiful					79. City				
30. Window					80. Square				
31. Rough					81. Butter				
32. Citizen					82. Doctor				
33. Foot					83. Loud				
34. Spider					84. Thief				
35. Needle					85. Lion				
36. Red					86. Joy				
37. Sleep					87. Bed				
38. Anger					88. Heavy				
39. Carpet					89. Tobacco				
40. Girl					90. Baby				
41. High					91. Moon				
42. Working					92. Scissors				
43. Sour					93. Quiet				
44. Earth					94. Green				
45. Trouble					95. Salt				
46. Soldier					96. Street				
47. Cabbage					97. King				
48. Hard					98. Cheese				
49. Eagle					99. Blossom				
50. Stomach					100. Afraid				

NAME

Born

Type

Percentage of Normal

Reactions common

Reactions doubtful

Reactions individual

Sex

School Grade

Race

Mentality

No.

96

70

2.6

%

%

Normal

Pathological

Unclassified

%

%

%